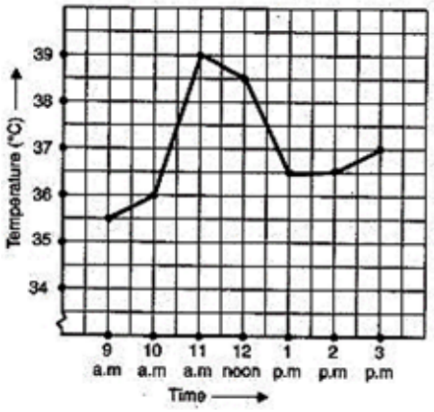
YEARLY MATHEMATICS REVISION WORKSHEET 2021

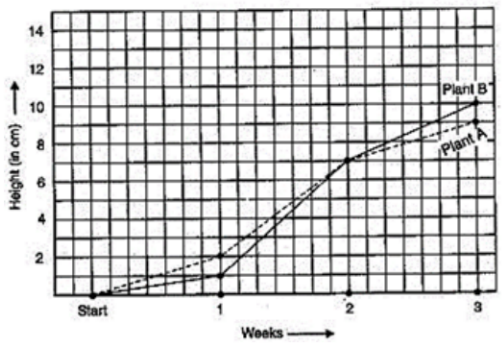
Class 08 - Mathematics

Section A

1. Find the area of polygon ABCDEF, if AD = 18cm, AQ = 14 cm, AP = 12 cm, AN = 8 cm, AM = 4 cm, and FM, EP, QC and BN are perpendiculars to diagonal AD. **[3]**
2. If h = 10 cm, c = 6 cm, b = 12 cm, d = 4 cm, find the values of each of its parts separately and add to find the area WXYZ. Verify it by putting the values of h, a and b in the expression $\frac{h(a+b)}{2}$ **[3]**
3. Daniel is painting the walls and ceiling of a cuboidal hall with length, breadth and height of 15 m, 10 m and 7 m respectively. From each can of paint 100 m^2 of area is painted. How many cans of paint will she need to paint the room? **[3]**
4. The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45 cm and 30 cm in length. Find the total cost of polishing the floor, if the cost per m^2 is ₹ 4. **[3]**
5. Find the surface area of a chalk box whose length, breadth and height are 16cm, 8cm and 6cm respectively. **[3]**
6. Plot the points on a graph sheet. Verify if they lie on a line K(2, 3), L(5, 3), M(5, 5), N(2, 5) **[3]**
7. The following graph shows the temperature of a patient in a hospital, recorded every hour. **[3]**
   i. What was the patient's temperature at 1 p.m.?
   ii. When was the patient's temperature 38.5°C?
   iii. The patient's temperature was the same two times during the period given. What were these two times?



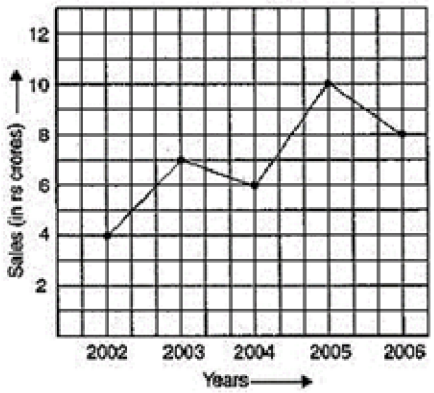
8. For an experiment in Botony, two different plants, plant A and plant B were grown under similar laboratory condition. Their heights were measured at the end of each week for 3 weeks. The results are shown by the following graph. **[3]**



a. How high was Plant A after (i) 2 weeks (ii) 3 weeks?
b. How high was Plant B after (i) 2 weeks (ii) 3 weeks?
c. How much did Plant A grow during the 3rd week?

9. The following line graph shows the yearly sales figures for a manufacturing company. **[3]**

i. What were the sales in (a) 2002 (b) 2006?
ii. What were the sales in (a) 2003 (b) 2005?
iii. Compute the difference between the sales in 2002 and 2006.



10. Plot the points on a graph sheet. Verify if they lie on a line. **[3]**
P(1, 1), Q(2, 2), R(3, 3), S(4, 4)

11. Divide as directed: $20(y + 4)(y^2 + 5y + 3) \div 5(y + 4)$ **[3]**

12. Factorise the expression and divide them as directed: $(y^2 + 7y + 10) \div (y + 5)$ **[3]**

13. Find and correct the errors in the mathematical statement. Substituting x = -3 in the given equation $(x + 5)^2 = z^2 + 25$ **[3]**

14. Find the difference between compound interest and simple interest on ₹45000 at 12% per annum for 5yr. **[3]**

15. A scooter was bought at ₹42,000. Its value depreciated at the rate of 8% per annum. Find its value after one year. **[3]**

16. A picnic is being planned in a school for Class VII. Girls are 60% of the total number of students and are 18 in number. The picnic site is 55 km from the school and the transport company is charging at the rate of ₹12 per km. The total cost of refreshments will be ₹4280. If their first stop is at a place 22 km from the school, what per cent of the total distance of 55 km is this? What per cent of the distance is left to be covered? **[3]**

17. How many small cubes with edge of 20cm each can be just accommodated in a cubical box of 2m edge? **[3]**

18. Add $p^3 - 1$, $p^3 + p + 2$ and $p^2 - 2p + 1$. **[3]**

19. Add: 10mn, $-\frac{3}{8}mn$ and $-\frac{1}{4}mn$ **[3]**

20. What must be added to $2m^2 - 3mn + 3n^2$ to get $5m^2 + 2mn + 7n^2$? **[3]**

21. Find the volume of rectangular box with sides are $4p^2q^3$, 3pq and $2p^2q$. **[3]**

22. What is the value of $a^2 + b^2 - 10$ at a = 0 and b = 0? **[3]**

23. Construct a parallelogram HEOM with HO = 6 cm, HE = 4 cm and OM = 3 cm. **[3]**

24. Construct a rhombus LEND where LN = 5.6 cm and DE= 6.5 cm. **[3]**

25. Construct a parallelogram POUR in which PO = 5.5 cm, OU = 7.2 cm and $\angle O = 70^o$. **[3]**

26. Construct a parallelogram VXYZ in which VX = 4 cm, XY = 5 cm and $\angle X = 60^o$. **[3]**

27. Is it possible to construct a quadrilateral ABCD in which AB = 3 cm, BC = 4 cm, CD = 5.4 cm, DA = 5.9 cm and diagonal AC = 8 cm? If not, why? **[3]**

28. If a and b vary inversely to each other, then find the values of x, y, z. **[3]**

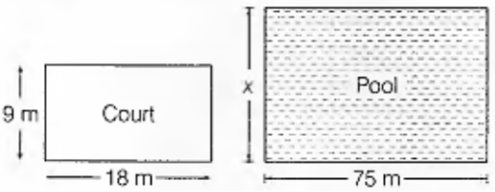
a	2	y	6	10
b	x	12.5	15	z

29. If a and b vary inversely to each other, then find the values of p, q, r; x, y, z and l, m, n. **[3]**

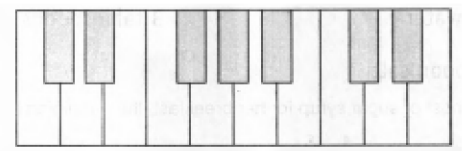
a	l	9	n	6
b	5	m	25	10

30. A 5 m 60 cm high vertical pole casts a shadow 3 m 20 cm long. Find at the same time the height of a pole which casts a shadow 5m long. **[3]**

31. A volleyball court is in a rectangular shape and its dimensions are directly proportional to the dimensions of the swimming pool given below. Find the width of the pool. **[3]**



32. Here is a keyboard of a harmonium. **[3]**



a. Find the ratio of white keys to black keys on the keyboard.

b. What is the ratio of black keys to all keys on the given keyboard?

c. This pattern of keys is repeated on larger keyboard. How many black keys would you expect to find on a keyboard with 14 such patterns?

Section B

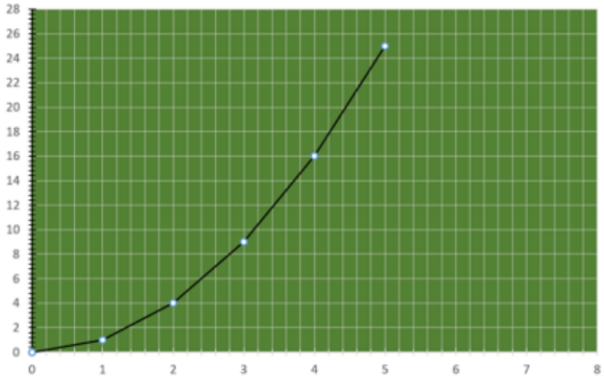
33. Consider the relation between the area and the side of a square, given by $A = x^2$. **[4]**

a. Draw a graph to show this relation.

b. From the graph, find the value of A when x = 4.

c. Is this graph a linear graph?

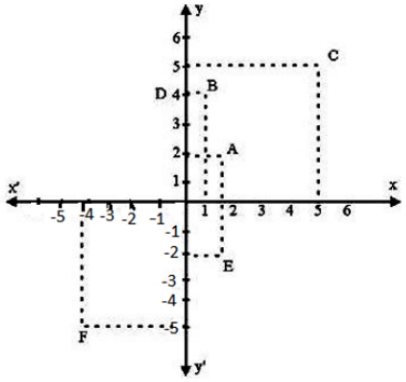
Side of square (x)	0	1	2	3	4	5
Area of square (A)	0	1	4	9	16	25



34. From below figure, **[4]**

a. find the coordinates of the points A, B, C, D, E and F.

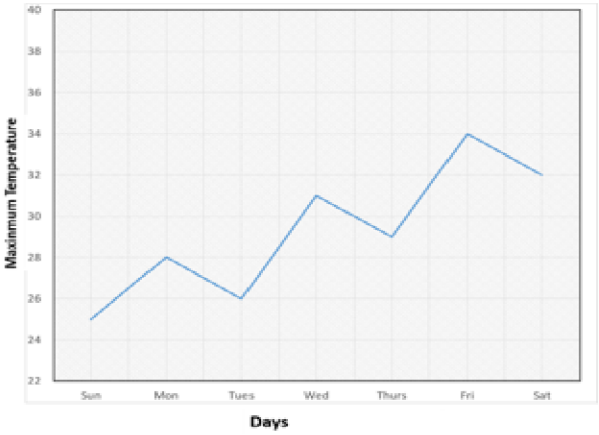
b. What of the points are mirror images in (i) x – axis (ii) y – axis.



35. Draw a pie chart for the given data: **[4]**

Mode of transportation	Cycle	Walking	Bus or car
% of students	20%	40%	40%

36. Study the graph and answer the questions that follow: **[4]**



a. What is the information obtained from the graph?

b. On which day was the temperature highest?

c. On which day was the temperature 32 °C

d. Which was the coldest day?

37. Draw a graph for the following. **[4]**

Side of square (in cm)	2	3	3.5	5	6
Perimeter (in cm)	8	12	14	20	24

i. Write the scale along the X axis and Y axis?

ii. What is marked on the horizontal axis?

iii. What is marked on the vertical axis?

iv. What is marked on the points plotted?

v. Is it a line graph?

38. Construct a square in which each side is 5 cm long. **[4]**

39. Construct a quadrilateral NEWS in which NE = 7cm, EW = 6cm, $\angle N = 60^o$, $\angle E = 110^o$ and $\angle S = 85^o$. **[4]**

40. Construct a quadrilateral MIST where MI = 3.5 cm, IS = 6.5 cm, $\angle M = 75°$, $\angle I = 105°$ and $\angle S = 120°$. **[4]**

41. Construct a quadrilateral ABCD, given that BC = 4.5 cm, AD = 5.5 cm, CD = 5 cm the diagonal AC = 5.5 cm and diagonal BD = 7 cm. **[4]**

OR

Construct a trapezium ABCD in which AB || DC, $\angle A = 105°$, AD = 3 cm, AB = 4 cm and CD = 8 cm.

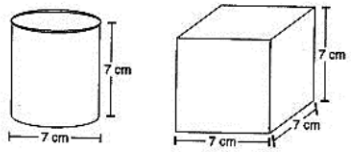
42. Construct a trapezium PQRS in which PQ||SR, $\angle P = 105^o$, PS = 3 cm, PQ = 4 cm, RQ = 4.5 cm and RS = 8 cm. **[4]**

OR

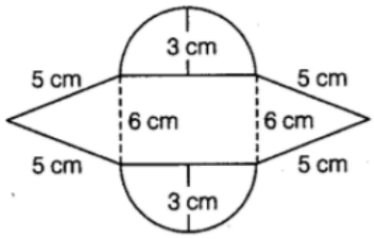
Construct a quadrilateral BEAR in which BE = 6 cm, EA = 7 cm, RB = RE = 5 cm and BA = 9 cm. Measure the fourth side.

43. A suitcase with measures 80 cm × 48 cm × 24 cm is to be covered with a trapaulin cloth. How many metres of trapaulin of width 96 cm is required to cover 100 such suitcases ? **[4]**

44. Describe how the two figures at the right are alike and how they are different. Which box has larger lateral surface area? **[4]**



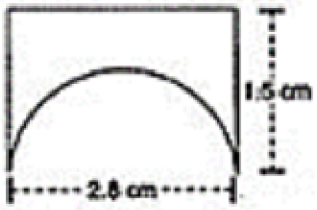
45. Find the area of the given figure: **[4]**



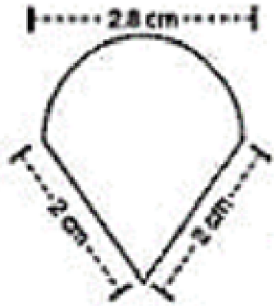
46. An ant is moving around a few food pieces of different shapes scattered on the floor. For which food piece would the ant have to take a longer round? Remember, circumference of a circle can be obtained by using the expression c = $2\pi r$ where r is the radius of the circle. **[4]**

a.

b.



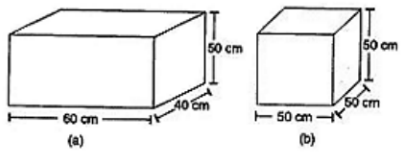
c.



OR

Three cubes each of side 10cm are joined end to end. Find the surface area of the resultant figure in metres.

47. There are two cuboidal boxes as shown in the adjoining figure. Which box requires the least amount of material to make? **[4]**



48. During a sale, a shop offered a discount of 10% on the marked prices of all the items. What would a customer have to pay for a pair of jeans marked at ₹1450 and two shirts marked at ₹850 each? **[4]**

OR

Sunscreens block harmful ultraviolet (UV) rays produced by the sun. Each sunscreen has a Sun Protection Factor (SPF) that tells you how many minutes you can stay in the sun before you receive

one minute of burning UV rays. e.g. If you apply sunscreen with SPF 15, you get one minute of UV rays for every 15 minutes you stay in the sun.

i. A sunscreen with SPF 15 allows only $\frac{1}{15}$ of the sun's UV rays. What 15 per cent of UV rays does the sunscreen abort?

ii. Suppose, a sunscreen allows 25% of the sun's UV rays.

a. What fraction of UV rays does this sunscreen block? Give your answer in lowest terms.

b. Use your answer from part (a) calculate this sunscreen's SPF. Explain how you found your answer?

iii. A label on a sunscreen with SPF 30 claims that the sunscreen blocks about 97% of harmful UV rays. Assuming the SPF factor is accurate, is this claim true. Explain.

49. Arif took a loan of Rs. 80000 from a bank. If the rate of interest is 10% per annum, find the difference in amounts he would be paying after $1\frac{1}{2}$ years if the interest is. **[4]**

(i) Compounded annually

(ii) Compounded half yearly.

50. Vasudevan invested Rs. 60000 at an interest rate of 12% per annum compounded half yearly. **[4]**

What amount would he get (i) after 6 months (ii) after 1 year

OR

The difference between compound Interest on a certain sum of money at 10% per annum for 2 years is₹ 500. Find the sum, if the interest is compounded annually.

51. Find the amount which Ram will get on ₹ 4096, if he gave it for 18 months at $12\frac{1}{2}\%$ per annum, interest being compounded half yearly. **[4]**

52. Simplify: (a + b + c)(a + b – c). **[4]**

53. Solve $(x+5)^2 = 49$. (Hint: There are two solutions.) **[4]**

OR

Simplify using identities : $\frac{196\times196-104\times104}{92}$

54. The perimeter of triangle is $8y^2 – 9y + 4$ and its two sides are $3y^2 – 5y$ and $4y^2 + 12$. Find its third side. **[4]**

55. Find the value of p in $3p = (28)^2 – (23)^2$ **[4]**

56. The sum of two numbers is 4 and there product is 3. Find the sum of there squares. **[4]**

57. Factorize $18a^3b^2 + 36ab^4 – 24a^2b^3$ **[4]**

OR

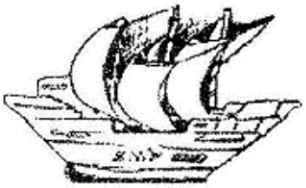
Factorise the expression and divide them as directed: $(5p^2 – 25p + 20) \div (p – 1)$

58. Factorize $15xy – 6x + 10y – 4$. **[4]**

OR

Factorize $6x^2 – 13x + 6$

59. In a model of a ship, the mast is 9 m high, while the mast of the actual ship is 12 m high. If the length of the ship is 28 m, how long is the model ship? **[4]**



OR

Ravi starts for his school at 8:20 am on his bicycle. If he travels at a speed of 10 km/h, then he reaches his school late by 8 minutes but on travelling at 16 km/h, he reaches the school 10 minutes early. At what time does school start?

60. The weight of 12 sheets of thick paper is 40 grams, how many sheets of the same paper would weigh $2\frac{1}{2}$ kilograms? **[4]**

OR

which of the following vary directly and which vary inversely with each other and which are neither of the two?

i. The quantity of rice and its cost.
ii. The height of a tree and the number of years.
iii. Increase in cost and number of shirts that can be purchased, if the budget remains the same.
iv. Area of land and its cost.
v. Sales tax and the amount of the bill.

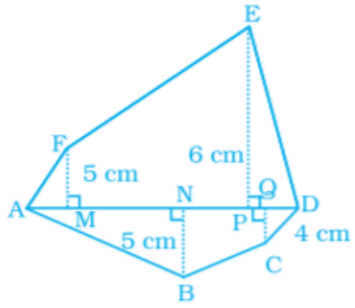
Solution

YEARLY MATHEMATICS REVISION WORKSHEET 2021

Class 08 - Mathematics

Section A

1. We have given,



In the figure

MP = AP – AM = (12 – 4) cm = 8 cm

PD = AD – AP = (18 – 12) cm = 6 cm

NQ = AQ – AN = (14 – 8) cm = 6 cm

QD = AD – AQ = (18 – 14) cm = 4 cm

Therfore,

Area of the polygon ABCDEF = area of ΔAFM + area of trapezium FMPE + area of ΔEPD + area of ΔANB + area of trapezium NBCQ + area of ΔQCD

= $\frac{1}{2}\times$ AM $\times$ FM + $\frac{1}{2}\times$(FM + EP) $\times$ MP + $\frac{1}{2}$ PD $\times$ EP + $\frac{1}{2}\times$ AN $\times$ NB + $\frac{1}{2}\times$(NB + CQ) $\times$ NQ + $\frac{1}{2}$ QD $\times$ CQ

= $\frac{1}{2}\times 4\times 5+\frac{1}{2}\times(5+6)\times 8+\frac{1}{2}\times 6\times 6+\frac{1}{2}\times 8\times 5+\frac{1}{2}\times(5+4)\times 6+\frac{1}{2}\times 4\times 4$

= 10 + 44 + 18 + 20 + 27 + 8

= 127 cm^2

2. Area of triangle WLZ $= \frac{1}{2}\times c\times h=\frac{1}{2}\times 6\times 10=30$ cm^2

Area of rectangle LMYZ = b $\times$ h = 12 $\times$ 10 = 120 cm^2

Area of triangle XMY $= \frac{1}{2}d\times h=\frac{1}{2}\times 4\times 10=20$ cm^2

$\therefore$ Area of trapezium WXYZ

= Area of triangle WLZ + Area of rectangle LMYZ + Area of triangle XMY

= 30 cm^2 + 120 cm^2 + 20 cm^2 = 170 cm^2

Again, Area of trapezium WXYZ

$= \frac{h}{2}(a+b)$

$= \frac{h}{2}(c+b+d+b)$

$= \frac{h}{2}(c+2b+d)$

$= \frac{10}{2}(6+2\times 12+4)$

$= \frac{10\times 34}{2}$

= 170 m^2,

which is the same as obtained above.

3. l = 15 m

b = 10 m

h = 7 m

Surface area to be painted

= 2 (l $\times$ b + b $\times$ h + h $\times$ l) – l $\times$ b

= 2 (15 $\times$ 10 + 10 $\times$ 7 + 7 $\times$ 15)m^2 – (15 $\times$ 10) m^2

= 2(150 + 70 + 105) m^2 – 150 m^2

= 2 (325) m^2 – 150 m^2

= 650 m^2 – 150 m^2

= 500 m^2

∴ Number of cans needed

$= \frac{Surface\ area\ to\ be\ painted}{Area\ painted\ by\ 1\ can}$

$= \frac{500}{100}$

= 5

Hence, she will need 5 cans to paint the room.

4. Area of a tile = area of rhombus

$\frac{1}{2}$d1d2

$\frac{1}{2}45 \times 30$

= 675 cm^2

∴ Area of the floor = 675 × 3000 cm^2

= 2025000 cm^2

$= \frac{2025000}{100 \times 100} m^2$

= 202.50 m^2

The cost of polishing per m^2 = Rs. 4

∴ Total cost of polishing the floor

= 202.50 × 4

= Rs. 810

5. Since chalk box is in form of cuboid.

Surface area of chalk box = 2(lb + bh + hl)

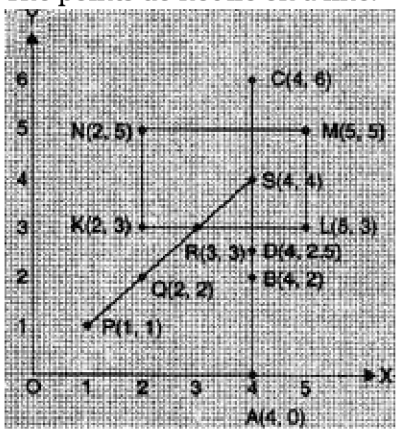
Surface area of chalk box $= 2(16 \times 8 + 8 \times 6 + 6 \times 16) cm^2$

Surface area of chalk box = 2(128 + 48 + 96) cm^2

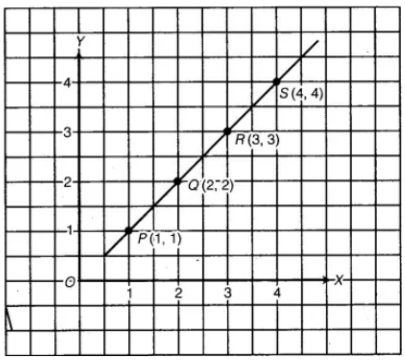
Surface area of chalk box = 2(272) cm^2

Surface area of chalk box = 544 cm^2

6. The points do not lie on a line.



7. i. The patient's temperature at 1 p.m. was 36.5°C.
   ii. The patient's temperature was 38.5°C at 12 noon.
   iii. The two times when the patient's temperature was the same were 1 p.m. and 2 p.m. (36.5°C)
8. a. The Plant A after (i) 2 weeks was 7 cm high and after (ii) 3 weeks was 9 cm high.
   b. The Plant B after (i) 2 weeks was 7 cm high and after (ii) 3 weeks was 10 cm high.
   c. The Plant A grew 9 cm – 7 cm = 2 cm during the 3rd week.
9. i. The sales in (a) 2002 were Rs. 4 crore and in (b) 2006 were Rs. 8 crore.
   ii. The sales in (a) 2003 were Rs. 7 crore and in (b) 2005 were Rs. 10 crore.
   iii. The difference between the sales in 2002 and 2006
   Rs. 8 crore – Rs. 4 crore.
   = Rs. 4 crore.

10. 

Thus, the points lie on a line.

11. 20(y + 4) (y^2 + 5y + 3) ÷ 5(y + 4)
$= \frac{20(y+4)(y^2+5y+3)}{5(y+4)}$
= 4(y^2 + 5y + 3)

12. (y^2 + 7y + 10) ÷ (y + 5)
$= \frac{y^2+7y+10}{y+5}$
$= \frac{y^2+2y+5y+10}{y+5}$ . . . .[Using Identity IV
$= \frac{y(y+2)+5(y+2)}{y+5}$
$= \frac{(y+2)(y+5)}{y+5}$
= y + 2

13. (x + 5)^2 = z^2 + 2(z) (5) + (5)^2
$((-3)+5)^2 = z^2 + 10z + 25$
$4 = z^2 + 10z + 25$
$= z^2 + 10z + 21$

14. We have,
Principal (P) = ₹45000
Rate of interest (P) = 12% per annum
Time period (T) = 5yr
Simple interest, SI = $\frac{P \times R \times T}{100}$
= $\frac{45000 \times 12 \times 5}{100}$
= 450 × 60
= ₹27000
Compound interest, Cl = A - P
where, $A = P\left(1 + \frac{R}{100}\right)^T$
∴ A = $45000\left(1 + \frac{12}{100}\right)^5$
= $45000\left(\frac{28}{25}\right)^5$
= $45000 \times \frac{28}{25} \times \frac{28}{25} \times \frac{28}{25} \times \frac{28}{25} \times \frac{28}{25}$
= $\frac{45000 \times 17210368}{9765625}$
= ₹79200
∴ Compound interest, Cl = ₹79200 - ₹45000
= ₹34200
∴ Difference between SI and Cl = ₹ 34200 - ₹27000
= ₹7200

15. P = ₹ 42000
R = 8% per annum
n = 1 year
$\therefore A = P\left(1 - \frac{R}{100}\right)^n$

$= 42000\left(1 - \frac{8}{100}\right)^1$

$= 42000\left(1 - \frac{2}{25}\right)$

$= 42000 \times \frac{23}{25}$

= ₹ 38640

Hence, its value after 1 year is ₹ 38640.

16. We have,

The distance from picnic to school = 55 km

The distance of the place where first stop was made = 22 km

To find the percentage of distance:

$= \frac{22}{55} \times 100$

$= 40\%$

She is multiplying the ratio by $\frac{100}{100} = 1$ and converting to percentage.

Both came out with the same answer that the distance from their school of the place where they stopped at was 40% of the total distance they had to travel.

Therefore, the percent distance left to be travelled = 100% – 40%

= 60%

17. Cubical box = 2m = 200cm (1m=100cm)

(The units of both should be the same)

Edge of box= 20cm

Number of small cubes that can be accommodated = 200 ÷ 20 = 10 cubes

18.
$$\begin{array}{rr} & p^3 \quad -1 \\ + & p^3 \quad +p+2 \\ + & \quad p^2-2p+1 \\ \hline & 2p^3+p^2-p+2 \end{array}$$

19. $10mn + \left(-\frac{3}{8}mn\right) + \left(-\frac{1}{4}mn\right)$

$= 10mn - \frac{3}{8}mn - \frac{1}{4}mn$

$= \left(10 - \frac{3}{8} - \frac{1}{4}\right)mn$

$= \frac{80-3-2}{8}mn$

$= \frac{75}{8}mn$

20. Let the number added is x ,

$(2m^2 - 3mn + 3n^2) + x = (5m^2 + 2mn + 7n^2)$

$x = (5m^2 + 2mn + 7n^2) - (2m^2 - 3mn + 3n^2)$

$x = 5m^2 + 2mn + 7n^2 - 2m^2 + 3mn - 3n^2$

$x = 3m^2 + 5\ mn + 4n^2$

So, the number is $3m^2 + 5\ mn + 4n^2$.

21. Volume of rectangular box = l × b × h

$= (4p^2q^3) \times (3pq) \times (2p^2q)$

$= (4 \times 3 \times 2)\ (p^2q^3 \times pq \times p^2q)$

$= 24\ p^5q^5$

22. Put a = 0 and b = 0

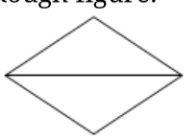
$a^2 + b^2 - 10$

$= (0)^2 + (0)^2 - 10$

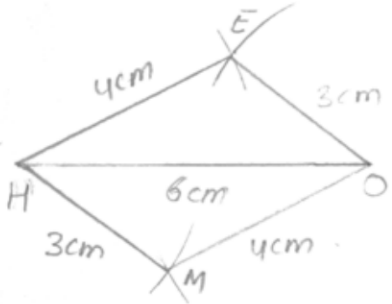
$= 0 + 0 - 10$

$= -10$

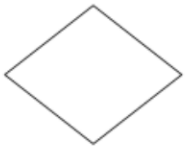
23. Rough figure:



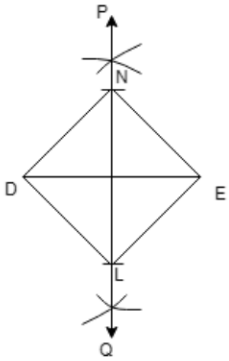
Steps of construction:
Step 1. Draw line segment HO= 6cm.
Step 2. With H as centre and radius 4cm, draw an arc above and mark as E
Step 3. With radius as 3cm and centre as O draw an arc intersecting the previous arc at E.
Step 4. With H as centre and radius 3 cm, draw an arc downwards and mark it as M.
Step 5. With O as centre and radius 4cm, draw an arc intersecting the previous arc at M.
Hence, the required parallelogram HEOM is constructed.
Final Figure:



24. **Rough figure:**



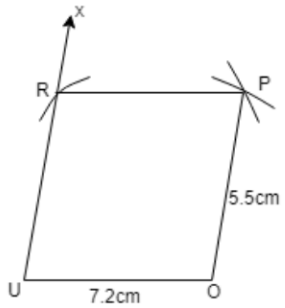
Steps of construction:
Step 1. Draw diagonal DE = 6.5cm.
Step 2. Draw perpendicular bisector PQ as diagonals of a rhombus are perpendicular bisectors.
Step 3. Taking the centre point and radius as 2.8cm draw N and L on PQ.
Step 4. Join all the points ND, DL, LE and NE.
Hence, we get the rhombus LEND.
Final figure:



25. **Rough figure:**

Steps of construction:
Step 1. Draw line segment OU = 7.2cm.
Step 2. With O as centre and radius 5.5cm, draw an arc above and mark as P
Step 3. On U construct angle XUO=70^0
Step 4. As opposite sides of parallelogram are same draw an arc of radius 5.5cm on angle XUO.
Step 5. With radius as 7.2cm and centre as R draw an arc intersecting the previous arc at P.
Hence, we get the required quadrilateral.

Required figure:



26. **Rough figure:**

Steps of construction:

Step 1. Draw line segment XY = 5cm.

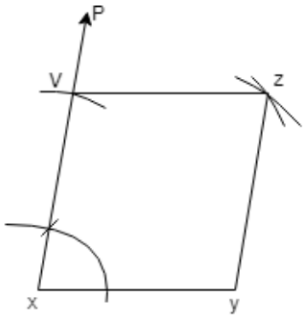
Step 2. With X as centre, draw an ∠PXY = 60^0. With radius 4cm and centre X, draw an arc on the angle and mark as V

Step 3. As opposite sides of parallelogram are equal, draw an arc namely Z, With radius as 4cm taking centre as Y.

Step 4. With V as centre and radius 5cm, construct an arc that intersects the previous arc at Z.

Join all the points. We get the required quadrilateral VXYZ.

Required Figure:



27. No,

Given measures are AB = 3 cm,BC = 4 cm,CD = 5.4cm,

DA = 5.9 cm and AC = 8 cm

Here, we observe that AB + BC = 3 + 4 = 7 cm and AC = 8 cm

i.e. the sum of two sides of a triangle is less than the third side, which is absurd.

Hence, we cannot construct such a quadrilateral.

28.

a	2	y	6	10
b	x	12.5	15	z

If a = 6 and b = 15

Then; a × b = 6 × 15 = 90

⇒ k = 90

When a = 2 and b = x, then

ab = k

⇒ 2 × x = 90

⇒ 2 × x = 90 [putting the value of k]

⇒ x = 45

When a = y and b = 12.5, then

ab = k

y × 12.5 = 90 [putting the value of k]

$\Rightarrow y = \frac{90}{12.5} = 72$

When a = 10 and b = z, then

ab = k

$\Rightarrow 10 \times z = 90$ [putting the value of k]

$\Rightarrow z = 9$.

29.

a	l	9	n	6
b	5	m	25	10

If a = 6 and b = 10

Then; $a \times b = 6 \times 10 = 60$

$\Rightarrow k = 60$

When a = l and b = 5, then

ab = k

$\Rightarrow l \times 5 = 60$ [putting the value of k]

$\Rightarrow l = 12$

When a = 9 and b = m, then

ab = k

$9 \times m = 60$ [putting the value of k]

$\Rightarrow m = \frac{20}{3}$

When a = n and b = 25, then

ab = k

$\Rightarrow n \times 25 = 60$ [putting the value of k]

$\Rightarrow n = \frac{60}{25}$

$\Rightarrow n = \frac{12}{5}$

30. Let the height of the vertical pole be x m and the length of the shadow by y m.

As the height of the vertical pole increases, the length of the shadow also increases in the same ratio, so it is a case of direct proportion.

We make use of the relation of the type $\frac{x_1}{y_1} = \frac{x_2}{y_2}$

Here,

x_1 = 5m 60cm = 560 cm

y_1 = 3m 20cm = 320 cm

x_2 = 5m 00cm = 500 cm

Therefore, $\frac{x_1}{y_1} = \frac{x_2}{y_2}$ gives

$\frac{560}{320} = \frac{x_2}{500}$

$\therefore 320x_2 = 560 \times 500$

$\therefore x_2 = \frac{560 \times 500}{320}$

$\therefore x_2$ = 875 cm = 8m 75cm

31. From the given figures,

Length of volleyball court = 18 m

Breadth of volleyball court = 9m

Length of pool = 75 m

Let the width of the swimming pool = x m

According to the question, the size of volleyball court and swimming pool are in direct proportion to each other.

$\therefore \quad \frac{9}{18} = \frac{x}{75}$

$\Rightarrow \quad x = \frac{75 \times 9}{18} = \frac{75}{2} = 37.5\text{m}$ [by cross-multiplication]

Hence, the width of the swimming pool is 37.5 m.

32. According to the given figure in the question,

a. The total number of black keys = 7

The total number of white keys = 10

Hence, the ratio of white keys to black keys on the keyboard = $\frac{10}{7}$

b. The total number of keys = 10 + 7 = 17

The ratio of black keys to total keys on the given keyboard = $\frac{7}{17}$

c. Black keys in 1 keyboard = 7
Black keys in 14 such keyboards = 14 × 7 = 98 keys

Section B

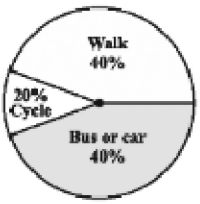
33. a. The graph is drawn.
b. From the graph it is clear that area when x = 4 is 16.
c. This graph is not a linear graph.

34. Coordinates of the given points are:
a. A (1.5,2), B(1,4), C(5,5), D(0,4), E(1.5, -2)
b. i. Points A & E are the mirror images in X-axis
ii. No points are the mirror images in the Y-axis.

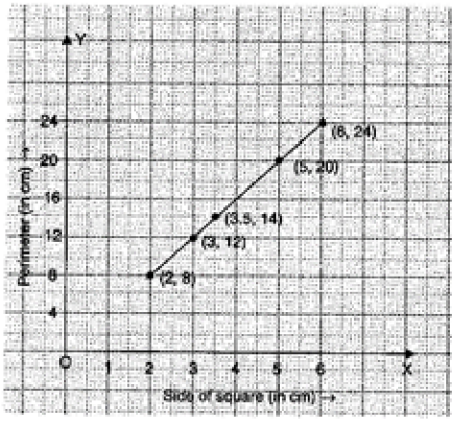
35. Calculation of central angle:

Mode of transportation	**Fraction (from %)**	**Central Angle**
Cycle	$\frac{20}{100}$	$\frac{20}{100} \times 360 = 72^\circ$
Walking	$\frac{40}{100}$	$\frac{40}{100} \times 360 = 144^\circ$
Bus or car	$\frac{40}{100}$	$\frac{40}{100} \times 360 = 144^\circ$

Pie chart:



36. a. The graph shows “Max temperature of the days of a week”
b. Friday
c. Saturday
d. Sunday

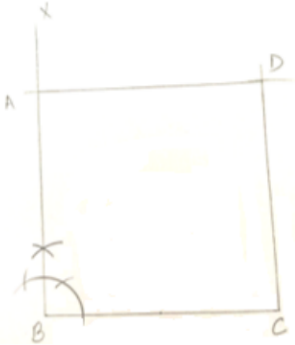
37. 

i. Scale :
Horizontal : 1 unit = 1 cm
Vertical : 1 unit = 4 cm
ii. Mark side of the square (in cm) on horizontal axis.
iii. Mark perimeter (in cm) on vertical axis.
iv. Plot the points (2, 8), (3, 12), (3.5, 14), (5, 20) and (6, 24).
v. Join the points.
We get a line graph.

38. **Rough figure:**

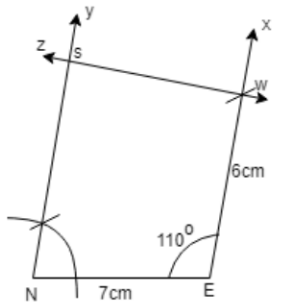
Steps of construction:
Step 1. Draw line segment BC = 5 cm.

Step 2. With B as centre, construct a right angle namely XBC
Step 3. Taking radius as 5 cm draw BA
Step 4. Taking centre as C mark an arc and with same radius draw an arc intersecting the previous arc namely as D.
Required figure:

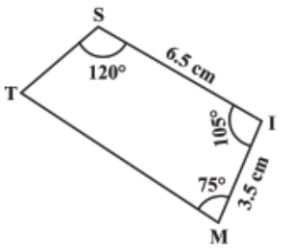


39. **Rough figure:**

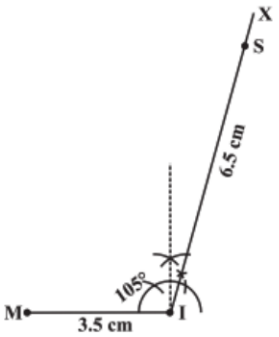
Steps of construction:
Step 1. Draw line segment NE = 7cm.
Step 2. Taking N as centre construct an angle of 60^o namely YNE=60^o.
Step 3. Taking E as centre draw an angle of 110^o namely XEN.
Step 4. With E as centre and radius 6cm, draw an arc on the angle XEN.
Step 5. Using angle sum property, find the angle measure of W i.e 105^o.
Step 6. Construct angle W as 105^o i.e ZWE.
Step 7. Angles YNE and ZWE would intersect at a point. Name it as point S.
Hence, we get the required figure i.e NEWS.
Required figure:



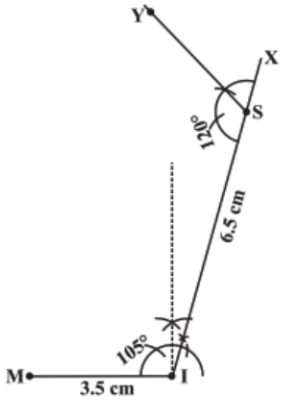
40. Here is a rough sketch that would help us in deciding our steps of construction. We give only hints for various steps (Figure).



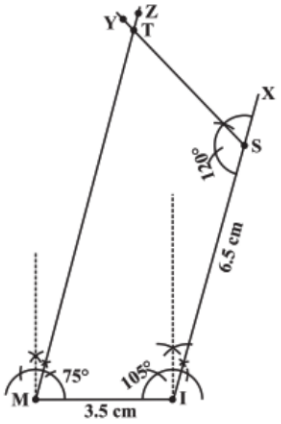
Step1: How do you locate the points? What choice do you make for the base and what is the first step? (Figure)



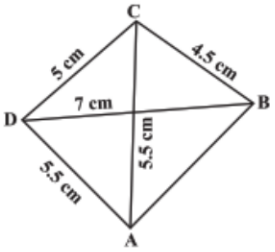
Step 2 Make ∠ISY = 120° at S (Figure).



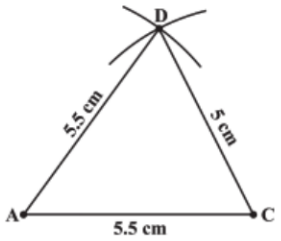
Step 3 Make ∠IMZ = 75° at M. (where will SY and MZ meet?) Mark that point as T. We get the required quadrilateral MIST (Figure).



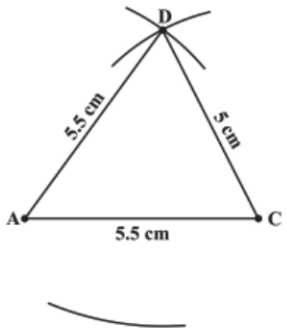
41. Here is the rough sketch of the quadrilateral ABCD (Figure). Studying this sketch, we can easily see that it is possible to draw △ACD first



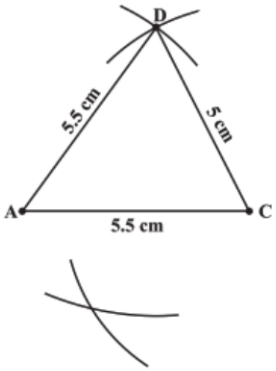
Step1: Draw △ACD using SSS construction (Figure). (We now need to find B at a distance of 4.5 cm from C and 7 cm from D).



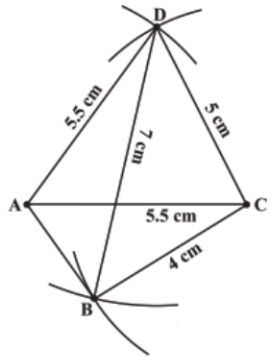
Step 2 With D as centre, draw an arc of radius 7 cm. (B is somewhere on this arc) (Figure).



Step 3 With C as centre, draw an arc of radius 4.5 cm (B is somewhere on this arc also) (Figure).

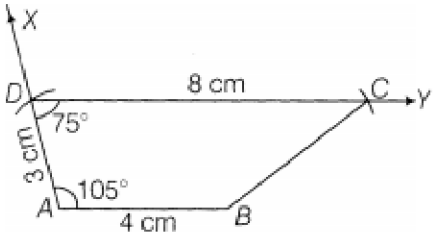


Step 4 Since B lies on both the arcs, B is the point intersection of the two arcs. Mark B and complete ABCD. ABCD is the required quadrilateral (Figure)



OR

We know that.
$\angle A + \angle D = 180$ [$\because$ sum of adjacent angle of a trapezium is 180°]
$105° + \angle D = 180°$
$\angle D = 75°$



Steps of Construction
Step I: Draw AB = 4 cm.
Step II: Draw $\overline{AX}$ such that $\angle BAX = 105°$.
Step III: Mark a point D on AX such that AD = 3cm.
Step IV: Draw $\overline{DY}$ such that $\angle ADY = 75°$.
Step V: Mark a point C such that CD = 8cm.
Step VI: Join BC.
Hence, ABCD is the required trapezium.

42. **Rough figure:**

Steps of construction:

Step 1. Draw line segment QP = 4cm.

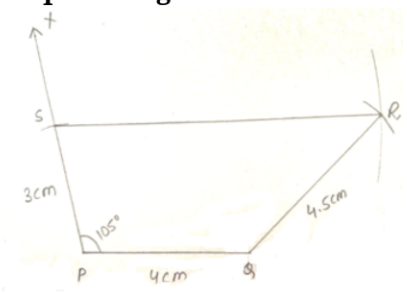
Step 2. With P as centre, construct an angle XPQ= 105^0 and taking radius 3cm, draw an arc on angle and mark it as S.

Step 3. With radius as 8cm and centre at S draw an arc

Step 4. With Q as centre and radius 4.5cm, draw an arc intersecting the previous arc at R.

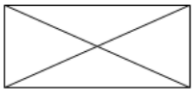
Thus, PQRS is the required figure.

Required Figure



OR

Rough figure:



Steps of construction:

Step 1. Draw line segment RE = 5cm.

Step 2. With R as centre and radius 5cm, draw an arc below and mark as B

Step 3. With radius as 6cm and centre as E draw an arc intersecting the previous arc at B satisfying SSS congruence. Join RB and EB.

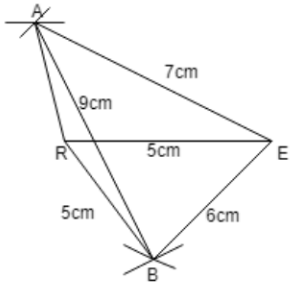
Step 4. With E as centre and radius 7cm, draw an arc above and mark as A

Step 5. With radius as 9cm and centre as B draw an arc intersecting the previous arc at A. Join EA and AB.

Step 6. Join AR and measure.

It measures 4cm.

Required figure:



43. Total surface area of the suitcase

= 2 (80 × 48 + 48 × 24 + 24 × 80)

= 2 (3840 + 1152 + 1920)

= 2 (6912)

= 13824 cm^2

∴ Length of trapaulin required to cover 1 suitcase

$= \frac{Total\ Surface\ area\ of\ the\ suitcase}{width\ of\ trapaulin}$

$= \frac{13824}{96}$

= 144 cm

∴ Length of trapaulin required to cover 100 such suitcase

= 144 × 100 cm

= 14400 cm

= 144 m

Hence, 144 m of trapaulin is required.

44. Similarity → Both have same height.

Difference → One is a cylinder, the other is a cube.

For the first figure

$r = \frac{7}{2}cm$

h = 7 cm

∴ Lateral surface area $= 2\pi rh$

$= 2 \times \frac{22}{7} \times \frac{7}{2} \times 7$

= 154 cm^2

For second figure

l = 7 cm

b = 7 cm

h = 7 cm

∴ Lateral surface area = $4l^2$

= $4 \times (7)^2$

= 196 cm^2

Hence, the second box has the larger lateral surface area.

45. Area of the given figure = Area of two semi-circles + Area of two triangles + Area of a square

∴ Area of triangle $= \sqrt{s(s-a)(s-b)(s-c)}$ [∵ a = 5cm, b = 5 cm and c = 6 cm, given]

Where, $s = \frac{a+b+c}{2} = \frac{5+5+6}{2}$

$= \frac{16}{2} = 8\text{cm}$

∴ Area of triangle = $\sqrt{8(8-5)(8-5)(8-6)}$

$= \sqrt{8 \times 3 \times 3 \times 2} = \sqrt{144} = 12\text{cm}^2$

∴ Area of triangle = 2 ×12 = 24cm^2

∴ Area of semi- circles = Area of 1 circle

∴ Area of circles = $\pi r^2 = \frac{22}{7} \times 3 \times 3 = \frac{9 \times 22}{7} = \frac{198}{7} = 28.28\text{cm}^2$

∴ Area of square = 6 × 6 = 36 cm^2

Area of the given figure = (24 + 28.28 + 36) = 88.28 cm^2

46. a. Perimeter of the semicircle + Diameter of the circle

= $\pi\left(\frac{2.8}{2}\right)$ cm + 2.8 cm

= $\frac{22}{7}\times$ 1.4 cm + 2.8 cm

= 4.4 cm + 2.8 cm

= 7.2 cm

b. Perimeter of the 3 sides of rectangle + Perimeter of semicircle

= 2.8 cm + 1.5 cm + 1.5 cm + $\pi\left(\frac{2.8}{2}\right)$ cm

= 5.8 cm + $\frac{22}{7}\times$ 1.4 cm

= 5.8 cm + 4.4 cm

= 10.2 cm

c. Perimeter of semicircle + Perimeter of 2 sides of the triangle

= 2 cm + 2 cm + $\pi\left(\frac{2.8}{2}\right)$ cm

= 4 cm + $\frac{22}{7}\times$ 1.4 cm

= 4 cm + 4.4 cm

= 8.4 cm

Therefore, the ant would have to take a longer round for food pieces (b).

OR

When three cubes are joined end to end, the resultant figure is a cuboid

whose length = 10+10+10 = 30cm

Breadth = 10cm

Height = 10cm

Surface area = 2(lb+bh+hl)

$= 2(30 \times 10 + 10 \times 10 + 10 \times 30)$

= 2(300 + 100 + 300)

= 2(700)

= 1400cm^2

1 sq. cm = $\frac{1}{10000}$ sq. m

1400 sq. cm = 0.14 sq. m

47. i. First Cuboidal Box

l = 60 cm

b = 40 cm

h = 50 cm

∴ Total surface area

= 2 (lb + bh + hl)

= 2 (60 × 40 + 40 × 50 + 50 × 60)

= 2 (2400 + 2000 + 3000)

= 2 (7400)

= 14800 cm^2

ii. Second Cuboidal Box

l = 50 cm

b = 50 cm

h = 50 cm

∴ Total surface area

= 2 (lb + bh + hl)

= 2 (50 × 50 + 50 × 50 + 50 × 50)

= 2 (2500 + 2500 + 2500)

= 2 (7500)

= 15000 cm^2

Hence, the box (a) requires the least amount of material to make.

48. Marked price of a pair of jeans = ₹ 1450

∴ Discount of 10% off = 10% of ₹ 1450

$= ₹\frac{10}{100} \times 1450$

= ₹ 145

∴ Sale price = Marked price – Discount

= ₹ 1450 – ₹ 145

= ₹ 1305

Marked price of two shirts each of ₹ 850

= ₹ 850 × 2

= ₹ 1700

∴ Discount of 10% off = 10% of ₹ 1700

$= ₹\frac{10}{100} \times 1700$

= ₹ 170

∴ Sale price = Marked price – Discount

= ₹ 1700 – ₹ 170

= ₹ 1530

∴ Total payment made by customer

= ₹ 1305 + ₹ 1530

= ₹ 2835

Hence, the customer will have to pay ₹ 2835 for a pair of jeans and two shirts.

OR

We have,

i. A sunscreen with SPF 15 allows only $\frac{1}{15}$of the sun's UV rays.

It means = 1 - $\frac{1}{15}$

= $\frac{14}{15}$ of the sun's UV rays abort by sunscreen.

In percentage = $\frac{14}{15} \times 100$

=$\frac{1400}{15}$

= 93.333%

ii. a. Sunscreen allows 25% of the sun's UV rays.

$\therefore$ It blocks UV rays = 100 - 25

= 75%

= $\frac{75}{100}$

= $\frac{3}{4}$

b. Sunscreen allows 25% on - of UV rays. It means that it protects = 1 - $\frac{3}{4}$

= $\frac{1}{4}$ of UV rays.

Hence, it's an SPF 4,

iii. False,

According to the claim, for $\frac{3}{100}$ effect of UV rays

1 minute = $33\frac{1}{3}\text{SPF}$

Therefore, Affect $\neq$ 30 SPF claim

49. **(i) Compounded annually**

P = Rs. 80000

R = 10% per annum

n = 1 year

$\therefore A = P\left(1 + \frac{R}{100}\right)^n = 80000$

$= 80000\left(1 + \frac{1}{10}\right)^1 = 80000 \times \frac{11}{10}$

= Rs. 88000

S.I. on Rs. 88000 at 10% per annum for $\frac{1}{2}$ year

$= \frac{88000 \times 10 \times 1}{2 \times 100} = Rs.4400$

$\therefore$ Required amount = Rs. 88000 + Rs. 4400

= Rs. 92400

(ii) Compounded half yearly.

P = Rs. 80000

R = 10% per annum

$\frac{10}{2}\%$ per half year

$n = 1\frac{1}{2}$ years

$= 1\frac{1}{2} \times 2$ half years

= 3 half years

$\therefore A = P\left(1 + \frac{R}{100}\right)^n = 80000\left(1 + \frac{5}{100}\right)^3$

$= 80000\left(1 + \frac{1}{20}\right)^3 = 80000\left(\frac{21}{20}\right)^3$

$= 80000 \times \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20}$

= Rs. 92610

This is the required amount

Difference in amounts = Rs. 92610 – Rs. 92400 = Rs. 210

Hence, the difference in amounts is Rs. 210.

50. **(i) After 6 months**

P = Rs. 60000

R = 12% per annum

$= \frac{1}{2} \times 12\%$ per half year

= 6% per half year

n = 1 half year

$\therefore A = P\left(1 + \frac{R}{100}\right)^n = 60000\left(1 + \frac{6}{100}\right)^1$

$= 60000 \times \frac{106}{100} = Rs.63600$

Hence, he would get Rs. 63600 after 6 months.

(ii) After 1 year

P = Rs. 60000

R = 12% per annum

$= \frac{12}{2}\%$ per half year

= 6% per half year

n = 1 year

= 1 × 2 half years

= 2 half years

$\therefore A = P\left(1 + \frac{R}{100}\right)^n = 60000\left(1 + \frac{6}{100}\right)^2$

$= 60000\left(1 + \frac{3}{50}\right)^2 = 60000\left(\frac{53}{50}\right)^2$

$= 60000 \times \frac{53}{50} \times \frac{53}{50} = Rs.67416$

Hence, he would get Rs. 67416 after 1 year.

OR

Let Principal (P) = ₹ x

Rate of interest (R) = 10%

Time period (T) = 2 years

C.I. – S.I =₹ 500

C.I. = A - P

$= P\left(1 + \frac{R}{100}\right)^T - P$

$= x\left(1 + \frac{10}{100}\right)^2 - x$

$= x\left(\frac{11}{10}\right)^2 - x$

$= \frac{121x}{100} - x = \frac{121x - 100x}{100} = \frac{21x}{100}$

$S.I. = \frac{P \times T \times R}{100}$

$= \frac{x \times 2 \times 10}{100} = \frac{x}{5}$

Now, C.I. - S.I. $= \frac{21x}{100} - \frac{x}{5} = 500$

$= \frac{21x}{100} - \frac{x}{5} = 500$

$= \frac{x}{100} = 500$

$x = 500 \times 100 = 50000$

Therefore, x = 50,000.

i.e., Principal (P) =₹ 50,000.

51. P = Rs. 4096

$R = 12\frac{1}{2}\%$ per annum

$= \frac{25}{2}\%$ per annum

$= \frac{1}{2} \times \frac{25}{2}\%$ per half year

$= \frac{25}{4}\%$ per half year

n = 18 months $= \frac{18}{6}$ half years

= 3 half years.

$\therefore A = P\left(1 + \frac{R}{100}\right)^n = 4096\left(1 + \frac{25}{4 \times 100}\right)^3$

$= 4096\left(1 + \frac{1}{16}\right)^3 = 4096\left(\frac{17}{16}\right)^3$

$= 4096 \times \frac{17}{16} \times \frac{17}{16} \times \frac{17}{16} = Rs.4913$

Hence, the required amount is Rs. 4913

52. $(a + b + c)(a + b – c)$

$= a (a + b – c) + b(a + b – c) + c (a + b – c)$

$= a^2 + ab – ac + ab + b^2 – bc + ca + cb – c^2$

$= a^2 + b^2 – c^2 + 2ab$

53. $(x+5)^2 = 49$

$(x+5)^2 = (7)^2$

$(x + 5) = \pm 7$

$x + 5 = 7$ and $x + 5 = - 7$

$x = 7 – 5$ and $x = –7 – 5$

$x = 2$ and $x = – 12$

OR

$\frac{196\times196-104\times104}{92}$

$= \frac{(196)^2-(104)^2}{92}$

$= \frac{(196-104)(196+104)}{92}$

$= \frac{92\times300}{92} = 300$

54. Perimeter of triangle = Sum of all sides

Third side = Perimeter of triangle – Sum of two sides

$= (8y^2 – 9y + 4) – (3y^2 – 5y + 4y^2 + 12)$

$= (8y^2 – 9y + 4) – (7y^2 – 5y + 12)$

$= 8y^2 – 9y + 4 – 7y^2 + 5y – 12$

$= y^2 – 4y – 8$

55. $3p = (28)^2 – (23)^2$

$3p = (28 – 23) (28 + 23)$

$3p = 5 (51)$

$3p = 255$

$p = 255 \div 3$

$p = 85$

56. Let the number be x and y

$\therefore x + y = 4$ and $xy = 3$

$\therefore$ the sum of squares $= (x + y)^2 = x^2 + 2xy + y^2$

$4^2 = x^2 + 2(3) + y^2$

$16 = x^2 + 6 + y^2$

$x^2 + y^2 = 16 – 6 = 10$

57. The greatest common factor of the terms $18a^3b^2$, $36ab^4$ and $24a^2b^3$ is $6ab^2$.

Also, we can write $18 a^3b^2 = 6ab^2 \times 3a^2$; $36ab^4 = 6ab^2 \times 6b^2$

And, $24a^2b^3 = 6ab^2 \times 4ab$

$\therefore 18a^3b^2 + 36ab^4 – 24a^2b^3 = 6ab^2 \times 3a^2 + 6ab^2 \times 6b^2 – 6ab^2 \times 4ab$

$= 6ab^2(3a^2 + 6b^2 – 4ab)$

OR

$(5p^2 – 25p + 20) \div (p – 1)$

$= \frac{5(p^2-5p+4)}{p-1}$

$= \frac{5(p^2-p-4p+4)}{p-1}$. . . . [Applying Identity IV]

$= \frac{5\{p(p-1)-4(p-1)\}}{p-1}$

$= \frac{5(p-1)(p-4)}{p-1}$

$= 5 (p – 4)$

58. We observe that first two terms have 3x as a common factor. Taking 3x common from them ,we have
15xy – 6x = 3x(5y – 2)
10y – 4 = 2(5y – 2)
Clearly, (5y – 2) is the binomial common from these two groups. Thus we group the terms as follows:
15xy – 6x +10y – 4 = 3x(5y – 2)+2(5y – 2)
= (3x + 2)(5y – 2)

OR

The given expression is $6x^2$ – 13x +6

Here coefficient of x^2 = 6, coefficient of x = - 13 and constant term = 6
So we write the middle term – 13x as – 4x, – 9x
Thus we have,

$6x^2 – 13x + 6 = 6x^2 – 4x – 9x + 6$
= 2x(3x – 2) – 3 (3x -2)
= (3x – 2)(2x – 3)

59. Let the length of the model ship be x m and the height of the mast be y cm.
We form a table as shown below:

Length of the ship (in metres)	28	x
Height of the mast (in metres)	12	9

More the length of the ship, more would be the length of its mast. Hence, this is a case of direct proportion.
That is,
$\frac{x_1}{y_1} = \frac{x_2}{y_2}$
$\therefore \frac{28}{12} = \frac{x}{9}$
$\therefore$ 12x = 28 $\times$ 9
$x = \frac{12 \times 9}{12}$
$\therefore$ x = 21
Hence, the length of the model ship is 21 m.

OR

Let the total distance = x km
Let the time taken by Ravi to reach the school at sharp time = t min
If the speed of the bicycle is 10 km/h, then he reach his school late by 8 min.
$\therefore \quad \frac{x}{10} = t + \frac{8}{60} \left[\because 1\,\text{min} = \frac{1}{60}h\right]$ .....(i)
$\Rightarrow \quad \frac{x}{10} = t + \frac{2}{15}$
If the speed of the bicycle is 16 km/h, then he reaches his school 10 min early.
$\therefore \quad \frac{x}{16} = t - \frac{10}{60}$
$\Rightarrow \quad \frac{x}{16} = t - \frac{1}{6}$ .....(ii)
On solving Eqs. (i) and (ii), we get
$\frac{x}{10} - \frac{x}{16} = \frac{2}{15} + \frac{1}{6}$
$\Rightarrow \quad \frac{8x - 5x}{80} = \frac{4+5}{30}$
$\Rightarrow \quad \frac{3x}{80} = \frac{9}{30}$
$\Rightarrow \quad x = \frac{9 \times 80}{30 \times 3} = 8\text{km}$ [by cross-multiplication]
Now, put x = 8 in Eq. (i), we get
$\frac{8}{10} = t + \frac{2}{15}$
$\Rightarrow \quad t = \frac{8}{10} - \frac{2}{15} = \frac{24-4}{30}$
$\Rightarrow \quad t = \frac{20}{30} = \frac{2}{3}h$
$= \frac{2}{3} \times 60 = 40\text{min}$ [$\because$ 1h = 60 min]
Hence, the starting time of school is 8:20 + 40 min i.e. 9: 00 am.

60. Let the number of sheets which weigh $2\frac{1}{2}$ kg be x. We put the above information in the form of a table as shown below:

Number of sheets	12	x
Weight of sheets (in grams)	40	2500

More the number of sheets, the more would their weight be. So, the number of sheets and their weights are directly proportional to each other.

So, $\frac{12}{40} = \frac{x}{2500}$

or $x = \frac{12 \times 2500}{40}$

or x = 750

Thus, 750 sheets of the same paper would weigh $2\frac{1}{2}$ kg.

OR

i. The quantity of rice and its cost are directly proportional to each other, e.g. Let 1 kg of rice price = ₹40
   Then, 2 kg of rice price = ₹2 $\times$ 40 = ₹80
ii. The height of a tree and the number of years are neither directly nor inversely proportional to each other.
iii. Increase in cost and number of shirts that can be purchased, if the budget remains the same are inversely proportional to each other.
   e.g. Let 2 shirts price = ₹800
   After increasing in price of each shirt,
   1 shirt price became ₹800
   where budget = ₹800
iv. Area of land and its cost are directly proportional to each other,
   e.g. Let 200 m^2 land cost = ₹5000
   Then, 400 m^2 land cost = ₹10000
v. Sales tax and the amount of the bill are directly proportional to each other,
   e.g. Let bill amount = ₹1000
   Sales tax = 10%
   Then, sales tax = $\frac{10}{100} \times 1000$ = ₹100
   But if, bill amount = 2000
   Sales tax = 10%
   Then, sales tax $\frac{10}{100} \times 2000 = 10 \times 20$ = ₹200

YEARLY REVISION WORKSHEET PART 2 (EXTRA PRACTICE)

Class 08 - Mathematics

Section A

1. A parallelogram each of whose angles measures 90^o is _____. **[1]**

   a) rectangle
   b) trapezium
   c) kite
   d) rhombus

2. The length of one diagonal of a rectangle is 6.2 cm, so the length of the other diagonal is _____. **[1]**

   a) 3.1 cm
   b) 6.2 cm
   c) 8.4 cm
   d) 12.4 cm

3. A milkman sold two of his buffaloes for Rs 20,000 each. On one he made a gain of 5% and on the other a loss of 10%. Find his overall gain or loss. **[1]**

   a) Loss of Rs 1,569.84
   b) Gain of Rs 1,269.84
   c) Loss of Rs 1,269.84
   d) None of these

4. A sum is taken for two years at 16% per annum. If interest is compounded after every three months, the number of times for which interest is charged in 2 yrs is **[1]**

   a) 9
   b) 6
   c) 4
   d) 8

5. The list price of a frock is Rs 220. A discount of 20% is announced on sales. What is the amount of discount on it? **[1]**

   a) Rs 44
   b) Rs 22
   c) Rs 33
   d) None of these

6. A chair marked at Rs 1,500 is available for Rs 1,440. Find the discount percent. **[1]**

   a) 5%
   b) 3%
   c) 4%
   d) None of these

7. Fabina borrows Rs 12,500 at 12% per annum for 3 years at simple interest and Radha borrows the same amount for the same time period at 10% per annum, compounded annually. Who pays more interest and by how much? **[1]**

   a) None of these
   b) Fabina pays Rs 262.50 more
   c) Fabina pays Rs 462.50 more
   d) Fabina pays Rs 362.50 more

8. Suppose a certain sum doubles in 2 yr at r% rate of simple interest per annum and R% rate of **[1]**

interest per annum compounded annually. Then,

a) Cannot be determined
b) R = r
c) r < R
d) R < r

9. Using a suitable identity find the value of $(4.7)^2$ **[1]**

a) 34.09
b) 23.22
c) 25.08
d) 22.09

10. Add: $4y(3y^2 + 5y - 7)$ and $2(y^3 - 4y^2 + 5)$. **[1]**

a) $14y^3 + 12y^2 - 28y$
b) $14y^3 + 12y^2 - 10$
c) $14y^3 + 12y^2 - 28y + 10$
d) $28y - 10$

11. Simplify: $(xy + yz)^2 - 2x^2y^2z$. **[1]**

a) $x^2 + y^2 + z^2$
b) $x^2y^2 + 2xy^2z + 2x^2y^2z$
c) $x^2y^2 + 2xy^2z + y^2z^2$
d) $x^2y^2 + 2xy^2z + y^2z^2 - 2x^2y^2z$

12. Using the suitable Identity find $(2x + 3y)^2$. **[1]**

a) 16 x^2 + 12xy + 9 y^2
b) 4 x^2 + 12xy + 16 y^2
c) 12xy
d) 4 x^2 + 12xy + 9 y^2

13. Which of the following is a monomial? **[1]**

A. 3a
B. 2x + 7
C. 4x + y
D. 3x + 5y + 7

a) (D)
b) (A)
c) (C)
d) (B)

14. Sum of a - b + ab, b + c - bc and c - a - ac is **[1]**

a) 2c - ab - ac - bc
b) 2c - ab + ac + bc
c) 2c + ab + ac + bc
d) 2c + ab - ac - bc

15. Find the perimeter of a rectangle whose length is 4 cm and breadth is 3 cm. **[1]**

a) 8 cm
b) 14 cm
c) 12 cm
d) 10 cm

16. The dimensions of an iron box are 9ft $\times$ 4.4ft $\times$ 2.5ft. What is the cost of the iron sheet used to make the box, if the cost of the sheet is Rs 6 per square foot? **[1]**

a) Rs 887.2
b) Rs 977.2
c) Rs 777.2
d) Rs 877.2

17. The surface area of the four sides of a cubical dice is $4cm^2$. What must be the length of its edge? **[1]**

a) 4 cm
b) 2 cm
c) 3 cm
d) 1 cm

18. The height of a right circular cone is 9 cm. If its volume is 432π cm^3, what is the slant height of the cone? **[1]**

a) 12 cm
b) 15 cm
c) 10 cm
d) 20 cm

19. The circumference of the base of a conical tent is 31.4 m. and its slant height is 9 m. Find the area of the canvas used in making the tent. **[1]**

a) 141.42 m^2
b) 130 m^2
c) 144.3 m^2
d) 138.3 m^2

20. A rectangular cement patio is 10 meters long and 8 meters wide. What is its area? **[1]**

a) $16m^2$
b) $80m^2$
c) $32m^2$
d) $40m^2$

21. The dimensions of an iron box are 9 ft $\times$ 4.4 ft $\times$ 7.2 ft. What is the cost of the iron sheet used to make the box, if the cost of the sheet is Rs 0.90 per square foot? **[1]**

a) Rs 344.94
b) Rs 444.94
c) Rs. 244.94
d) Rs 644.94

22. The circumference of the base of a cone of height 9 in. is 44 in. Find the volume of the cone. **[1]**

a) 567 $in.^3$
b) 462 $in.^3$
c) 457 $in.^3$
d) 452 $in.^3$

23. Suppose 2 kg of sugar contains 9×10^6 crystals. How many sugar crystals are there in 1.2 kg of sugar? **[1]**

a) 10^6crystals
b) 5.4 crystals
c) 5.4×10^6crystals
d) None of these

24. If the distance travelled by a rickshaw in one hour is 10 km, then the distance travelled by the same rickshaw with the same speed in one minute is **[1]**

a) 100 m
b) $\frac{500}{9}$ m
c) $\frac{500}{3}$ m
d) $\frac{250}{9}$m

25. Two persons could fit new windows in a house in 3 days. How many persons would be needed to fit the windows in half-day? **[1]**

a) 4 persons
b) 8 persons
c) 2 persons
d) 12 persons

26. A road map with a scale of 1 cm represents 36 km. When Ravi drives on a road for 144 km, what would be the distance covered by him on the map? **[1]**

a) 12 cm
b) 8 cm

c) 4 cm

d) 16 cm

27. 10 men working for 6 days mow an area of 5 acres. If there are 8 men working to mow 3 acres of land, how many days will it take? **[1]**

a) 4 days

b) 8 days

c) 12.5 days

d) 2 days

28. A factory of socks requires 42 machines to produce a given number of socks in 63 days, how many machines are required to produce the same number of socks in 54 days? **[1]**

a) 28

b) 42

c) 49

d) 35

29. Which of the following is the common factor of 21 x^2y and 35 xy^2? **[1]**

a) 7

b) None of these

c) xy

d) 7 xy

30. Factorise: $a^2 - 2ab + b^2 - c^2$ **[1]**

a) (a - b - c)(a + b + c)

b) (a - b - c)(a - b + c)

c) (a - b - c)(a - b - c)

d) (a + b + c)(a + b + c)

31. Find and correct the errors in the following mathematical statements. $(2x)^2 + 4(2x) + 7 = 2x^2 + 8x + 7$ **[1]**

a) $(2x)^2 + 4(2x) + 7 = 4x^2 + 8x + 9$

b) None of these

c) $(2x)^2 + 4(2x) + 7 = 4x^2 + 8x + 7$

d) $(2x)^2 + 4(2x) + 7 = 4x^2 + 5x + 7$

32. Factorise: $a^2 - 10000b^4$ **[1]**

a) $(a + 100b^2)$

b) $(a - 100b^2)$

c) $(a - 100b^2)(a + 100b^2)$

d) None of these

33. Factorise: xy + y + xz + z **[1]**

a) None of these

b) (y + z)

c) (x + 1) (y + z)

d) (x + 1)

34. Factorised form of $r^2 - 10r + 21$ is **[1]**

a) (r + 7) (r + 3)

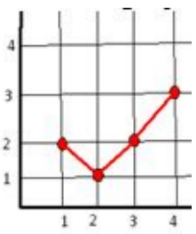
b) (r – 7) (r + 3)

c) (r – 1) (r – 4)

d) (r – 7) (r – 3)

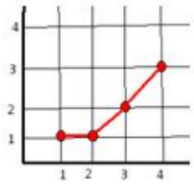
35. Plot a line graph for the following points (1, 2), (2, 1), (3,2), (4,3). **[1]**

a)

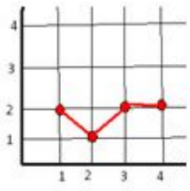


b) None of these

c)



d)



36. On which axis does the point (-1, 0) lie? **[1]**

a) y-axis

b) x-axis

c) None of these

d) origin

37. If the 4-digit number 2X Y7 is exactly divisible by 3, then which of the following is the least value of (X + Y)? **[1]**

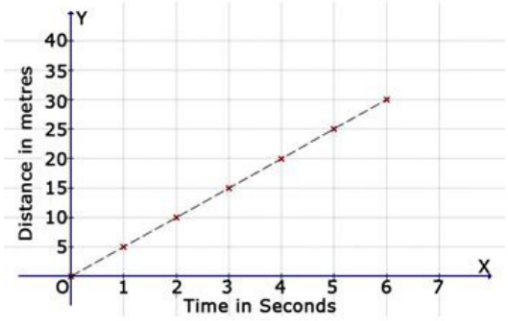
a) 3

b) 6

c) 4

d) None of these

38. Find the distance covered in 3 seconds. **[1]**



a) 15 m

b) 5 m

c) 10 m

d) 20 m

39. Where does the point (0, -6) lie? **[1]**

a) on origin

b) in 4th quadrant

c) on y-axis

d) on x-axis

40. On which axis does the point (4, 0) lie? **[1]**

a) origin

b) x-axis

c) None of these

d) y-axis

Section B

41. Construct a quadrilateral SORE, where SO = 6cm, OR = 4.5cm, ∠S= 60°, ∠0=105°, and ∠R=105° **[4]**

OR

Construct a parallelogram when one of its side is 4 cm and its two diagonals are 5.6 and 7 cm respectively. Measure the other side.

42. What price should a shopkeeper mark on article that costs him ₹600 to gain 20%, after allowing a discount of 10%? **[4]**

OR

An average Urban Indian uses about 150 L of water every day.

Activity	Litres per person per day
Drinking	3

Cooking	4
Bathing	20
Sanitation	40
Washing clothes	40
Washing utensils	20
Gardening	23
Total	**150**

a. What per cent of water is used for bathing and sanitation together per day?

b. How much less per cent of water is used for cooking in comparison to that used for bathing?

c. What per cent of water is used for drinking, cooking and gardening together?

43. Harsha gave her car for service at a service station on 27-05-2009 and was charged as follows. **[4]**

i. 3.10 L engine oil @ 178.75 per litre and VAT @ 20%.

ii. @1105.12 for all other services and VAT @ 12.5%.

iii. @ 2095.80 as labour charges and service tax @ 10%.

iv. 3% cess on service tax. Find the bill amount.

Find the bill amount.

OR

Given, principal = ₹40000, rate of interest = 8% per annum compounded annually. Find

i. Interest if period is one year.

ii. Principal for IInd year.

iii. Interest for IInd year.

iv. Amount if period is two year.

OR

Sunscreens block harmful ultraviolet (UV) rays produced by the sun. Each sunscreen has a Sun Protection Factor (SPF) that tells you how many minutes you can stay in the sun before you receive one minute of burning UV rays. e.g. If you apply sunscreen with SPF 15, you get one minute of UV rays for every 15 minutes you stay in the sun.

i. A sunscreen with SPF 15 allows only $\frac{1}{15}$ of the sun's UV rays. What 15 per cent of UV rays does the sunscreen abort?

ii. Suppose, a sunscreen allows 25% of the sun's UV rays.

a. What fraction of UV rays does this sunscreen block? Give your answer in lowest terms.

b. Use your answer from part (a) calculate this sunscreen's SPF. Explain how you found your answer?

iii. A label on a sunscreen with SPF 30 claims that the sunscreen blocks about 97% of harmful UV rays. Assuming the SPF factor is accurate, is this claim true. Explain.

44. A VCR and TV were bought for ₹ 8,000 each. The shopkeeper made a loss of 4% on the VCR and a profit of 8% on the TV. Find the gain or loss percent on the whole transaction. **[4]**

OR

In 2007- 08, the number of students appeared for the Class X examination were 105332 and in 2008

- 09 the number were 116054. If 88151 students pass the examination in 2007- 08 and 103804 students in 2008 - 09 then what is the increase or decrease in pass percentage in class X result?

OR

What is the percentage increase or decrease in the number of seats won by A, B, C and D in the general elections of 2009 as compared to the results of 2004?

Political party	Number of seats won in 2004	Number of seats won in 2009
A	206	145
B	116	138
C	4	24
D	11	12

45. The base and the altitude of a triangle are (3x – 4y) and (6x + 5y) respectively. Find its area. **[4]**

OR

The perimeter of triangle is $8y^2 – 9y + 4$ and its two sides are $3y^2 – 5y$ and $4y^2 + 12$. Find its third side.

46. The adjacent sides of a rectangle are $x^2 – 4xy + 7y^2$ and $x^3 – 5xy^2$. Find the area. **[4]**

OR

The sides of a triangle are $x^2 – 3xy + 8$, $4x^2 + 5xy – 3$ and $6 – 3x^2 + 4xy$. Find its perimeter.

47. Prove that (x – y) (x+y) + (y- z) (y+ z) + (z – x) (z + x) = 0 **[4]**

OR

What must be added to sum of $x^2 – 4x + 7$ and $2x^2 + 5x – 9$ is to get 0.

48. Find the value of: $x^2 - \frac{1}{5}$ at x = -1. **[4]**

49. The dimensions of a cuboid are in the ratio of 2:3:4 and its total surface area is $208m^2$. Find its dimensions. **[4]**

50. A road roller takes 750 complete revolutions to move once over to level a road. Find the area of the road if the diameter of a road roller is 84 cm and length is 1 m. **[4]**

51. In a building there are 24 cylindrical pillars each having a radius of 28cm and height of 4m. **[4]**

Find the cost of painting the curved surface area of all the pillars at the rate of Rs.8 per m^2.

52. The parallel sides of a trapezium are 40 cm and 20 cm. If its non-parallel sides are both equal, each being 26 cm, find the area of the trapezium. **[4]**

53. The radius and height of cylinder are in the ratio of 3:2 and its volume is 19,404 cm^3. Find the radius and height. **[4]**

54. Rehman is making a wheel using spokes. He wants to fix equal spokes in such a way that the angles between any pair of consecutive spokes are equal. Help him by completing the **[4]**

following

. 

Numbers of spokes	4	6	8	10	12
Angle between a pair of consecutive spokes	90°	60°	–	–	–

i. Are the number of spokes and the angles formed between the pairs of consecutive spokes in inverse proportion?

ii. Calculate the angle between a pair of consecutive spokes on a wheel with 15 spokes.

iii. How many spokes would be needed, if the angle between a pair of consecutive spokes is 40 °?

55. The table shows the time four elevators take to travel various distances. Find, which elevator is fastest and which is slowest. **[4]**

	Distance (in m)	**Time (in s)**
Elevator A	435	29
Elevator B	448	28
Elevator C	130	10
Elevator D	85	5

How much distance will be travelled elevators B and C separately in 140 sec? Who travelled more and by how much?

56. Which of the following vary directly and which vary inversely with each other and which are neither of the two? **[4]**

i. Number of students in a hostel and consumption of food.

ii. Area of the walls of a room and the cost of whitewashing the walls.

iii. The number of people working and the quantity of work.

iv. Simple interest on a given sum and the rate of interest.

v. Compound interest on a given sum and the sum invested.

OR

which of the following vary directly and which vary inversely with each other and which are neither of the two?

i. The quantity of rice and its cost.

ii. The height of a tree and the number of years.

iii. Increase in cost and number of shirts that can be purchased, if the budget remains the same.

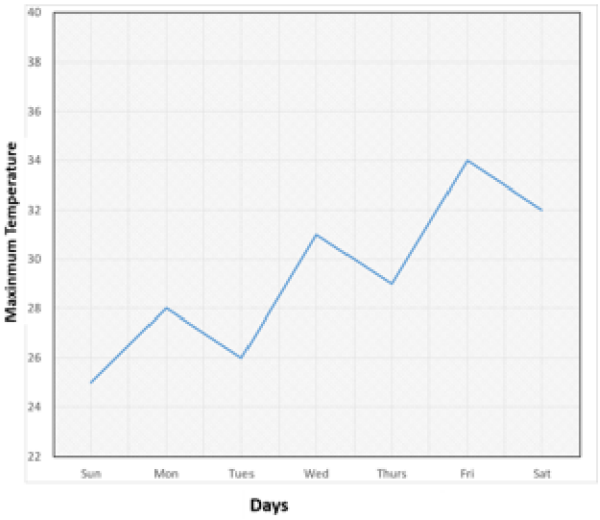
iv. Area of land and its cost.

v. Sales tax and the amount of the bill.

57. Factorize $x^2 + 5x - 36$ **[4]**

58. Factorize $a^2 - 1 + 2x - x^2$. **[4]**

59. Study the graph and answer the questions that follow : **[4]**



a. What is the information obtained from the graph?

b. On which day was the temperature highest?

c. On which day was the temperature 32 °C

d. Which was the coldest day?

60. Draw a parallelogram ABCD on a graph paper with the coordinates given in Table I. Use this table to complete Tables II and III to get the coordinates of E, F, G, H and J, K, L, M. **[4]**

Table I

Point	(x, y)
A	(1, 1)
B	(4, 4)
C	(8, 4)
D	(5, 1)

Table II

Point	(0.5x, 0.5y)
E	(0.5, 0.5)
F	
G	
H	

Table III

Point	(2x, 1.5y)
J	(2, 1.5)
K	
L	
M	

Draw parallelograms EFGH and JKLM on the same graph paper.

Plot the points (2, 4) and (4, 2) on a graph paper, then draw a line segment joining these two

points.

Solution

YEARLY REVISION WORKSHEET PART 2 (EXTRA PRACTICE)

Class 08 - Mathematics

Section A

1. **(a)** rectangle
   Explanation: A rectangle is a type of parallelogram in which all the four angles are of 90^0 but the opposite sides are equal.

2. **(b)** 6.2 cm
   Explanation: As we know, the length of the diagonals of rectangle is equal. So, if the length of one diagonal is 6.2 cm then the other diagonal will also be of 6.2 cm.

3. **(c)** Loss of Rs 1,269.84
   Explanation: Let the C.P. one buffalo = Rs 100
   Gain = Rs 100 $\times$ 5% = Rs 5
   S.P. = Rs 105
   If S. P. 105 then C. P. = 100
   If S.P. 20,000 then C.P. = $\frac{100\times20000}{100}$
   = 19047.62
   Gain = 20000 - 19047.62
   = Rs 952.38
   S.P. of another buffalo = $\frac{100\times20000}{90}$
   = Rs 22222.22
   Loss = 22222.22 - 20000
   = Rs 2222.22
   Total Loss = Ra (2222.22 - 952.38)
   = Rs 1,269.84 (approx)

4. **(d)** 8
   Explanation: Since the rate of interest is calculated after every three months. Similarly, the time period for the amount in a year will 4 times.
   If amount is taken for 2 yr, means 4 $\times$ 2 = 8 times charged in 2 yr.

5. **(a)** Rs 44
   Explanation: The list price of frock = Rs 220
   Discount$(20\%) =$ ₹$\frac{220\times20}{100}$
   = Rs 44

6. **(c)** 4%
   Explanation: Discount = 1,500 - 1,440
   = Rs 60
   Discount = $\frac{60\times100}{1500}$
   = 4%

7. **(d)** Fabina pays Rs 362.50 more
   Explanation: Fabina borrows = Rs 12,500
   Rate(R) = 12%
   Time(T) = 3 years
   S.I.=$\frac{PRT}{100}$
   =$\frac{12500\times12\times3}{100}$
   = Rs 4,500
   Amount paid by Radhaat the end of three years =$A = P(1 + \frac{R}{100})^n$
   or, $A = 12500(1 + \frac{10}{100})^3$
   $= 12500(\frac{110}{100})^3$

= Rs 16,637.50
C.I. = Amount - Principal
= Rs (16,637 - 12,500)
= Rs 4,137.50
The Interest paid by Fabina is Rs 4,500 and by Radha is Rs 4,137.50
Thus, Fabina pays more Interest.
Fabina pays Rs 362.50 more.

8. **(d)** R < r
Explanation: If the total amount received after 2 yr is same for both simple interest and compound interest on same principle, then the rate of simple interest is greater than the rate of compound interest, i.e. R < r
Hence, option (R < r) is correct.

9. **(d)** 22.09
Explanation: Use identity $(a - b)^2 = a^2 + b^2 - 2ab$
Here a= 10.0 and b = 5.3
$(10 - 5.3)^2 = (10)^2 + (5.3)^3 - 2 \times 10 \times 5.3$
$(10 - 5.3)^2 = 100 + 28.09 - 106$
$(10 - 5.3)^2 = 128.09 - 106$
$(10 - 5.3)^2 = 22.09$

10. **(c)** $14y^3 + 12y^2 - 28y + 10$
Explanation: $4y(3y^2 + 5y - 7) + 2 (y^3 - 4y^2 + 5)$
open brackets we get,
$12y^3 + 20y^2 - 28y + 10$
$12y^3 + 2y^3 + 20y^2 - 8y^2 - 28y + 10$
$14y^3 + 12y^2 - 28y + 10$

11. **(d)** $x^2y^2 + 2xy^2z + y^2z^2 - 2x^2y^2z$
Explanation: Use identity $(a + b)^2 = a^2 + b^2 + 2ab$
$(xy + yz)^2 - 2x^2y^2z$
$|(xy)^2 + (yz)^2 + 2 \times xy \times yz| - 2x^2y^2z$
$x^2y^2 + y^2z^2 + 2xy^2z - 2x^2y^2z$
$x^2y^2 + 2xy^2z + y^2z^2 - 2x^2y^2z$

12. **(d)** $4\ x^2 + 12xy + 9\ y^2$
Explanation: Use identity,
$(a + b)^2 = a^2 + b^2 + 2ab$
$(2x + 3y)^2 = (2x)^2 + (3y)^2 + 2 \times 2x \times 3y$
$(2x + 3y)^2 = 4x^2 + 9y^2 + 12xy$
$(2x + 3y)^2 = 4x^2 + 12xy + 9y^2$

13. **(b)** (A)
Explanation: An algebraic expression that consists of one non-zero term only is called a monomial.
3a is a monomial as it contains only one term i.e 3a.

14. **(d)** 2c + ab - ac - bc
Explanation: Required sum = (a - b + ab) + {(b + c - bc) + (c - a - ac)}
= a - b + ab + b + c - b c + c - a - a c
= 2c + ab - ac - bc [adding the like terms and retaining others]

15. **(b)** 14 cm
Explanation: Length of the rectangle,l = 4cm

Breadth of the rectangle,b = 3 cm
Perimeter of a rectangle = 2(l + b) = 2(4 + 3) = 2 × 7 = 14 cm

16. **(d)** Rs 877.2
Explanation: length of iron box = 9 ft , breadth = 4.4 ft , height = 2.5 ft
Surface area of iron box = 2(l × b + b × h + h × l)
S = 2(9 × 4.4 + 4.4 × 2.5 + 2.5 × 9)
S = 2(39.6 + 11 + 22.5)
S = 2(73.1) = 2 × 73.1 = 146.2ft^2
Surface area of iron box = 146.2 ft^2
The cost of the sheet per square foot = Rs 6
The cost of the sheet 146.2 ft^2 = 6 × 146.2 = Rs 877.2
The cost is Rs 877.2

17. **(d)** 1 cm
Explanation: the surface area of four sides = lateral surface area.
So, lateral surface area of cube = 4 cm^2 and side be x cm
lateral surface area of cube = 4(side)^2
4 = (4x)^2
$\frac{4}{4} = x^2$
1 = x^2
$\sqrt{1}$ = x
1cm = x = side

18. **(b)** 15 cm
Explanation: the volume of right circular cone = 432π cm^3
$v = \frac{1}{3}\pi r^2 h$
$432\pi = \frac{1}{3}\pi r^2 (9)$
$\frac{432\pi \times 3}{\pi \times 9} = r^2$
$\frac{1296}{9} = r^2$
144 = r^2
$\sqrt{144}$ = 12cm = r
slant height = l
l^2 = r^2 + h^2
l^2 = (12)^2 + (9)^2 = 144 + 81 = 225
l = $\sqrt{225}$ = 15 cm

19. **(a)** 141.42 m^2
Explanation: The circumference of the base of a conical tent = 2 × π × r = 31.4 m
2 × 3.14 × r = 31.4
r = 5 m
Area of the canvas used in making the tent = π × r × l
= $\frac{22}{7}$ × 5 × 9
Area of the canvas used in making the tent = 141.42 m^2

20. **(b)** 80m^2
Explanation: length of rectangular cement patio = 10 m and breadth = 8 m
Area of cement patio = length × breadth
Area of cement patio = 10 × 8 = 80m^2

21. **(c)** Rs. 244.94
Explanation: length of an iron box = 9 ft., breadth = 4.4 ft., height = 7.2 ft.
Surface area of the iron box = 2(l × b + b × h + h × l)
S = 2(9 × 4.4 + 4.4 × 7.2 + 7.2 × 9)

S = 2(39.6 + 31.68 + 64.8)

S = 2(136.08) = 2 × 136.08 = 272.16 ft^2

surface area of an iron box is 272.16 ft^2

the cost of the sheet per ft^2= Rs. 0.90

272.16 ft^2 cost = 0.90 × 272.16 = Rs 244.94

the cost of the iron sheet used to make the box is Rs 244.94.

22. **(b)** 462 $in.^3$

Explanation: circumference of the base of a cone = 44 in.

c = 2πr

$44 = 2 \times \frac{22}{7} \times r$

$\frac{44 \times 7}{2 \times 22} = r$

7 in radius

the volume of cone = $\frac{1}{3}\pi r^2 h$

$v = \frac{1}{3} \times \frac{22}{7} \times (7)^2 \times 9$

$v = \frac{1}{3} \times \frac{22}{7} \times 7 \times 7 \times 9$

$v = \frac{9702}{21} = 462\ in.^3$

23. **(c)** 5.4×10^6 crystals

Explanation: This is a question of direct proportion as with increase in the kg of sugar the number of sugar crystals will increase

In direct proportion, the constant value is given by X/Y

$2/9 \times 10^6 = 1.2/a$ (where a is the number of sugar crystals)

$9 \times 10^6 \times 1.2 = 2 \times a$

$10.8 \times 10^6/2 = a$

$5.4 \times 10^6 = a$

24. **(c)** $\frac{500}{3}$ m

Explanation: The distance travelled by a rickshaw in 1 h = 10 km

In 1 min, rickshaw covered the distance = $\frac{10}{60}$ km = $\frac{10 \times 1000}{60}$m [$\because$ 1 h = 60 min and 1 km = 1000m]

= $\frac{1000}{6} = \frac{500}{3}$m

25. **(d)** 12 persons

Explanation: This is a question of inverse proportion as with the decrease in the number of days the number of persons needed will increase

In inverse proportion, the constant value is given by x × y

2 × 3 = a × $\frac{1}{2}$ (where a is the number of persons needed)

12 persons = a

26. **(c)** 4 cm

Explanation: This is a case of direct proportion as with the increase in actual distance on road the distance covered on the map will also increase

In direct proportion, the value of constant is given by $\frac{X}{Y}$

$\frac{1}{36}$ = $\frac{a}{144}$ (where a is the distance covered on map)

36 × a = 144

a = $\frac{144}{36}$

a = 4 cm

27. **(c)** 12.5 days

Explanation: This is a case of inverse proportion as with a decrease in the number of men more days will be needed to complete the work

In inverse proportion, the value of constant is given by x × y

10 × 6 × 5 = 8 × a × 3 (where a is the number of days)

$\frac{300}{24}$ = a
12.5 days = a

28. **(c)** 49
Explanation: This is a case of inverse proportion as with decrease in number of days more machines will be needed to produce the required number of socks
In inverse proportion, the value of constant is given by x × y
42 × 63 = a × 4 (where a is the number of machines required)
$\frac{2646}{54}$ = a
49 machines = a

29. **(d)** 7 xy
Explanation: 7 xy

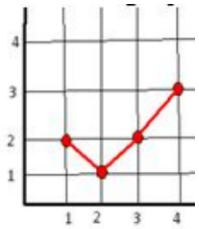
30. **(b)** (a - b - c)(a - b + c)
Explanation: $a^2 - 2ab + b^2 - c^2$
= $(a - b)^2 - c^2$ by using property $a^2 - b^2$
= (a - b - c)(a - b + c)

31. **(c)** $(2x)^2 + 4(2x) + 7 = 4x^2 + 8x + 7$
Explanation: $(2x)^2 + 4(2x) + 7 = 2x^2 + 8x + 7$ is an incorrect statement.
$(2x)^2 + 4(2x) + 7 = 4x^2 + 8x + 7$

32. **(c)** $(a - 100b^2)(a + 100b^2)$
Explanation: $a^2 - 10000b^4$
= $(a)^2 - (100b^2)^2$
= $(a - 100b^2)(a + 100b^2)$

33. **(c)** (x + 1) (y + z)
Explanation: xy + y + xz + z
y(x + 1) + z (x + 1)
(x+1) (y + z)

34. **(d)** (r – 7) (r – 3)
Explanation: We have, $r^2 - 10r + 21$
= $r^2 - 7r - 3r + 21$
= r(r - 7) - 3(r - 7)
[by splitting the middle term, so that the product of their numerical coefficient is equal constant term]
= (r - 7)(r - 3)

35. **(a)**


Explanation: It is a line with a dip as the 2nd point has lower Y value than others. X Value is gradually increasing as 1, 2, 3, 4.

36. **(b)** x-axis
Explanation: The point (-1, 0) lies on the x-axis as the y-value is 0.

37. **(a)** 3
Explanation: 3

38. **(a)** 15 m
Explanation: Here x =3 ,y= 15 (i.e) (3,15). distanced covered in 3seconds is 15m.similarly (1,5) (2,10)

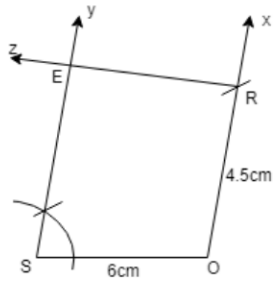
39. **(c)** on y-axis
Explanation: Here x = 0 (origin) and y = -6. So point (0, -6) lies on y-axis.

40. **(b)** x-axis
Explanation: Here x = 4, y = 0 (origin) so point (4,0) lies on x-axis.

Section B

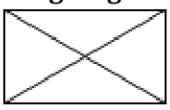
41. **Rough figure:**

Steps of construction:
Step 1. Draw line segment SO = 6cm.
Step 2. Construct ∠XOS= 105^0 and taking O as centre and radius 4.5cm, draw an arc that would lie on the above angle as RO.
Step 3. On R construct ∠ZRO = 105^0.
Step 4. On S construct an angle of 60^0 namely YSO.
Step 5. ∠YSO and ∠ZRO will intersect at a point. Mark it as E.
Step 6. Join E and R.
Hence, we get the required quadrilateral.
Final Figure:

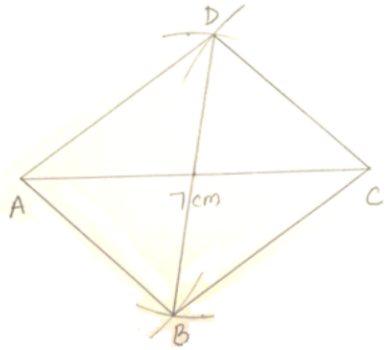


OR

Rough figure:



Steps of construction:
Step 1. Draw line segment AC = 7cm.
Step 2. Since diagonals of parallelogram bisect each other, taking mid point of AC , draw an arc for 2.8cm upward as D and downward as B.
Step 3. With A as centre and radius 4cm, draw an arc intersecting the previous arc at B
Step 4. Similarly, taking centre as C draw an arc intersecting the above arc at D.
Step 5. Join AD and BC.
We get the required quadrilateral.
Required Figure:



42. We have given that,
The cost price of the article = ₹ 600
Gain% = 20%
∴ Total Gain = $\frac{600\times20}{100}$ = ₹ 120

$\because$ SP = Gain + CP = ₹600 + ₹120 = ₹ 720

Let marked price be ₹ x.

Now shopkeeper allows a discount of 10%

According to the question, x -10% of x = ₹720

$\Rightarrow \quad x - \frac{10 \times x}{100} = 720$

$\Rightarrow \quad \frac{100x - 10x}{100} = 720$

$\Rightarrow \quad \frac{90x}{100} = 720$

$\Rightarrow \quad x = \frac{720 \times 100}{90}$

x = ₹ 800

Hence, the required marked price is ₹ 800.

OR

From the information given, it is clear that

a. water used for bathing per day = 20L

Water used for sanitation = 40L

$\therefore$ Total water used per day = 150L

Percentage of water is used for bathing and sanitation together per day = $\frac{(20+40)}{150} \times 100$

$= \frac{60}{150} \times 100$

= 40%

b. Water used for cooking per day = 4L

Water used for bathing per day = 20L

Difference between water used for cooking and bathing = 20 - 4

= 16L

In percentage = $\frac{16}{150} \times 100$

$= \frac{160}{15}$

= $\frac{32}{3}\%$

c. Water used for drinking per day = 3L

Water used for cooking per day = 4L

Water used for gardening per day = 23L

Water used for drinking, cooking and gardening together = 3 + 4 + 23

= 30L

In percentage = $\frac{30}{150} \times 100$

= $\frac{100}{5}$

= 20%

43. We have given that,

i. The total litres of engine oil used = 3.10 L

Rate of engine oil per litres =₹178.75

The cost of engine oil = 3.10 $\times$ 178.75

= ₹554.125

The cost of engine oil including 20% VAT = 554.125 + 554.125 $\times \frac{20}{100}$

= $554.125 + \frac{554.125}{5}$

= 554.125 + 110.825

= ₹664.95

ii. Amount paid for all services = ₹1105.12

Amount paid including 12.5% VAT = 1105.12 + $\frac{12.5}{100} \times 1105.12$

= 1105.12 + 138.14

= ₹1243.26

iii. Labour charges = ₹2095.80

Service tax = 10%

Total labour charges including 10% sevice tax = $2095.80 + \frac{10}{100} \times 2095.8$

= 2095.80 + 209.58
= ₹2305.38

iv. Cess on service tax @ 3% = $209.58 \times \frac{3}{100}$
$= 2.095 \times 3$ [$\because$ service tax = ₹209.58, get above]
= ₹6.285
= ₹6.29
Therefore, the total bill amount = ₹664.95 + ₹1243.26 + ₹2305.38 + ₹6.29
= ₹4219.88

OR

We have given that principal (P)= ₹40000
Rate of interest (R) = 8% per annum

i. Compound interest for one year,
We know that, $A = P\left(1 + \frac{R}{100}\right)^n$
,= $40000\left(1 + \frac{8}{100}\right)^1 [\because n = 1yr]$
= $40000 \times \frac{108}{100}$
$\therefore$ Amount, A = 400×108
= ₹43200
$\therefore$ Compound interest, Cl = A - P
= ₹43200 - ₹40000
= ₹3200

ii. Amount of 1st year = Principal of Il[nd] year
= ₹43200

iii. Now, for Il[nd] year,
Principal = ₹43200
Rate of interest, R= 8% per annum
Time, n = 1 yr
Amount for ll[nd] year = 43200
= $\left(1 + \frac{8}{100}\right)^1$
= $43200 \times \frac{108}{100}$
= ₹46656
Compound interest, Cl = A - P
= ₹46656 - ₹43200
= ₹3456

iv. Now, if period i.e. time (n) = 2 yr,
Principal = ₹ 40000
and rate (R) = 8% per annum
$\because \quad A = P\left(1 + \frac{R}{100}\right)^n$
$\Rightarrow \quad A = 40000\left(1 + \frac{8}{100}\right)^2$
$= 40000 \times \frac{108}{100} \times \frac{108}{100}$
= ₹46656
Therefore the total Amount, A = ₹46656

OR

We have,

i. A sunscreen with SPF 15 allows only $\frac{1}{15}$of the sun's UV rays.
It means = 1 - $\frac{1}{15}$
= $\frac{14}{15}$ of the sun's UV rays abort by sunscreen.
In percentage = $\frac{14}{15} \times 100$

$= \frac{1400}{15}$

= 93.333%

ii. a. Sunscreen allows 25% of the sun's UV rays.

∴ It blocks UV rays = 100 - 25

= 75%

= $\frac{75}{100}$

= $\frac{3}{4}$

b. Sunscreen allows 25% on - of UV rays. It means that it protects = 1 - $\frac{3}{4}$

= $\frac{1}{4}$ of UV rays.

Hence, it's an SPF 4,

iii. False,

According to the claim, for $\frac{3}{100}$ effect of UV rays

1 minute = $33\frac{1}{3}\text{SPF}$

Therefore, Affect $\neq$ 30 SPF claim

44. Combined C.P. = ₹ 8000 + ₹ 8000 = ₹ 16000

Loss of 4% on the VCR = 4% of ₹ 8000

$= ₹\frac{4}{100} \times 8000 = ₹\frac{4}{100} \times 8000$

= ₹ 320

∴ S.P. of VCR = C.P. – Loss

= ₹ 8000 – ₹ 320

= ₹ 7680

Profit of 8% on the T.V. = 8% of ₹ 8000

$= ₹\frac{8}{100} \times 8000$

= ₹ 640

∴ S.P. of T.V. = C.P. + Profit

= ₹ 8000 + ₹ 640 = ₹ 8640

∴ Combined S.P. = ₹ 7680 + ₹ 8640 = ₹ 16320

∴ Gain on the whole transaction

= Combined S.P. – Combined C.P.

= ₹ 16320 – ₹ 16000

= ₹ 320

∴ Gain percent on the whole transaction

$= \frac{320}{16000} \times 100 = 2\%$

Hence, the gain percent on the whole transaction is 2%.

OR

We have, Number of students appeared in 2007-08 = 105332

Number of students appeared in 2008-09 = 116054

Number of students passed in 2007-08 = 88151

Number of students passed in 2008-09 = 103804

Passed percentage of students in 2007-08 = $\frac{Number\ of\ students\ passed\ in\ 2007-08}{Number\ of\ students\ appeared\ in\ 2007-08} \times 100$

= $\frac{88151}{105332} \times 100$

= $\frac{8815100}{105332} = 83.68\%$

Passed percentage of students in 2008-09

= $\frac{Number\ of\ students\ passed\ in\ 2008-09}{Number\ of\ students\ appeared\ in\ 2008-09} \times 100$

= $\frac{103804}{116054} \times 100$

= $\frac{10380400}{116054} = 89.44\%$

Therefore, Increase in percentage = 89.44 - 83.68 = 5.76%

OR

We have,
For Political party A,
Number of seats won in 2004 = 206
Number of seats won in 2009 = 145
Decrement in the number of seats won by party A = 206 - 145 = 61
Therefore, Decrease % = $\frac{61}{206} \times 100$ = 29.61%
For Political party B,
Number of seats won in 2004 = 116
Number of seats won in 2009 = 138
Increment in the number of seats won by party B = 138 - 116 = 22
Therefore, Increase % = $\frac{22}{116} \times$ 100 = 18.96%
For Political party C,
Number of seats won in 2004 = 4
Number of seats won in 2009 = 24
Increment in the number of seats won by party C = 24 - 4 = 20
Therefore, Increase % = $\frac{20}{4} \times$ 100 = 500%
For Political party D,
Number of seats won in 2004 = 11
Number of seats won in 2009 = 12
Increment in the number of seat won by party D = 12 - 11 = 1
Therefore, Increase % = $\frac{1}{11} \times 100$ = 9.09%

45. Base = (3x – 4y)
Altitude = (6x + 5y)
Area of triangle = ½ ×base × altitude
= $\frac{1}{2}$ × (3x – 4y) × (6x + 5y)
= $\frac{1}{2}$ [3x (6x + 5y) – 4y (6x + 5y)]
= $\frac{1}{2}$ [$18x^2$ + 15xy – 24xy – $20y^2$]
= $\frac{1}{2}$ [$18x^2$– 9xy – $20y^2$] sq. unit
= $9x^2$– $\frac{9}{2}$ xy – $10y^2$] sq. unit

OR

Perimeter of triangle = Sum of all sides
Third side = Perimeter of triangle – Sum of two sides
= ($8y^2$ – 9y + 4) – ($3y^2$– 5y + $4y^2$ + 12)
= ($8y^2$ – 9y + 4) – ($7y^2$ – 5y + 12)
= $8y^2$ – 9y + 4 – $7y^2$ + 5y – 12
= y^2 – 4y – 8

46. Length = x^2 –4xy +$7y^2$ and Breadth = x^3 – $5xy^2$
Area of rectangle = Length × Breadth
= (x^2 –4xy +$7y^2$) × (x^3 – $5xy^2$)
= x^3 (x^2 –4xy +$7y^2$) – $5xy^2$(x^2 –4xy +$7y^2$)
= x^5 – $4x^4y$ + $7x^3y^2$ – $5x^3y^2$ + $20x^2y^3$ – $35xy^4$
= [x^5 – $4x^4y$ + $2x^3y^2$+ $20x^2y^3$ – $35xy^4$] sq. unit

OR

Perimeter of triangle = Sum of all sides
= (x^2 –3xy + 8) + ($4x^2$ + 5xy – 3) + (6– $3x^2$ + 4xy)
= x^2 –3xy + 8 + $4x^2$ + 5xy – 3 + 6 – $3x^2$ + 4xy
= x^2 + $4x^2$ – $3x^2$ – 3xy + 5xy + 4xy + 8 – 3 + 6
= $2x^2$+ 6xy + 11

47. LHS = (x – y) (x+y) + (y- z) (y+ z) + (z – x) (z + x)

= x^2 + xy – yx – y^2 + y^2 + yz – zy – z^2 + z^2 + zx – xz – x^2

= 0

OR

The number = 0 – [(x^2 – 4x + 7) + ($2x^2$ + 5x – 9)]

= 0 – [x^2 – 4x + 7 + $2x^2$ + 5x – 9]

= 0 – [$3x^2$ + x – 2]

= –$3x^2$ – x + 2

48. If x = –1

$(-1)^2 - \frac{1}{5} = 1 - \frac{1}{5} = \frac{5-1}{5} = \frac{4}{5}$

49. Let the dimensions be 2x, 3x and 4x in metres.

Total surface area = 208 m^2

2[(2x)(3x) + (3x)(4x) + (4x)(2x)] = 208

2[$6x^2$ + $12x^2$ + $8x^2$] = 208

2[$26x^2$] = 208

$52x^2$ = 208

x^2 = $\frac{208}{52}$

x^2 = 4m

x =√4m

x =2m

Length =2x =2(2m) = 4m

Breadth =3x = 3(2m) = 6m

Height =4x =4(2m) = 8m

50. Diameter of the road roller = 84 cm

∴ Radius (r) of the road roller = $\frac{84}{2}$cm = 42 cm

Length (h) of the road roller = 1m = 100 cm

∴ Lateral surface area of the road roller = $2\pi rh$

$= 2 \times \frac{22}{7} \times 42 \times 100$

= 26400 cm^2

∴ Area of the road covered in 1 complete revolution = 26400 cm^2

∴ Area of the road covered in 750 complete revolutions

= 26400 cm^2 × 750 cm^2

= 19800000 cm^2

$= \frac{19800000}{100 \times 100} m^2$

= 1980 m^2

51. Since the units should be same so let's convert cm into metre as the cost is also in metres.

Radius = 28cm = 0.28m (1cm = 1/100m)

Curved surface area of pillar = $2\pi(radius)(height)$

$= 2 \times \frac{22}{7} \times 0.28 \times 4$

$= 44 \times \frac{16}{100}$

= 7.04m^2

Curved surface area of 24 pillars = 7.04×24

= 168.96m^2

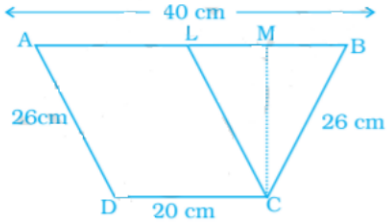
Cost of curved surface area of one m^2 = Rs.8

Cost of curved surface area of 168.96m2 pillar = $Rs.8 \times 168.96$

= Rs. 1351.68

Therefore, the costs of painting 24 cylindrical pillars are Rs.1351.68.

52. Let ABCD be the trapezium such that AB = 40 cm, CD = 20 cm and AD = BC = 26 cm.



Now, draw CL || AD

∴ ALCD is a parallelogram

So, AL = CD = 20 cm and CL = AD = 26 cm.

In ΔCLB, we have

CL = CB = 26 cm

Therefore, Δ CLB is an isosceles triangle.

Draw altitude CM of ΔCLB.

Since, Δ CLB is an isosceles triangle.

So, CM is also the median.

Then, LM = MB

= $\frac{1}{2}BL = \frac{1}{2}\times$ 20 cm

= 10 cm [∵BL = AB – AL = (40 – 20) cm = 20 cm]

Now, Applying Pythagoras theorem in ΔCLM, we have

$CL^2 = CM^2 + LM^2$

$26^2 = CM^2 + 10^2$

$\Rightarrow CM^2 = 26^2 - 10^2$

= (26 – 10) (26 + 10)

= 16 × 36

= 576

$\Rightarrow$CM = $\sqrt{576}$

$= 24\text{cm}$

Therefore, the area of the trapezium = $\frac{1}{2}$(sum of parallel sides) × Height

= $\frac{1}{2}$ (20 + 40) × 24

= 30 × 24

= 720 cm^2.

53. Let the radius be 3x and height be 2x.

Volume of cylinder $= \pi r^2 h$

19404 = $\frac{22}{7}$(3x)(3x)(2x)

19404 = $\frac{(66x)(6x^2)}{7}$

$19404\times 7 = 396x^3$

$x^3 = 343$

$x = \sqrt[3]{343}$

x = 7cm

Therefore,

Radius = 3x = 3(7) = 21cm

Height = 2x = 2(7) = 14cm

54.

Numbers of spokes	4	6	8	10	12
Angle between a pair of consecutive spokes	90°	60°	45°	36°	30°

i. Yes! The number of spokes and the angles formed between the pairs of consecutive spokes are in inverse proportion [∵ 4 × 90° = 6 × 60° = 8 × 45° = 10 × 36° = 12 × 30°]

ii. Let the angle between a pair of consecutive spokes on a wheel with 15 spokes be x°. Lesser the number of spokes, more will be the angle between a pair of consecutive spokes.
So, this is a case of inverse proportion.
Hence, $4 \times 90 = 15 \times x\,[x_1y_1 = x_2y_2]$
$\therefore x = \frac{4\times90}{15}$
$\therefore$ x = 24
Hence, the angle between a pair of consecutive spokes on a wheel with 15 spokes is 24°.

iii. Let x spokes be needed
Lesser the number of spokes, more will be the angle between a pair of consecutive spokes.
So, this is a case of inverse proportion.
Hence, $4 \times 90 = x \times 40$ [$x_1y_1 = x_2y_2$]
$\therefore x = \frac{4\times90}{40}$
$\therefore$ x = 9
Hence, 9 spokes would be needed.

55. On the basis of given table,
Elevator A takes 29 s to cover 435 m.
$\therefore$ Distance covered by elevator A in 1 s = $\frac{435}{29}$ = 15 m
Elevator B takes 28 s to cover 448 m.
$\therefore$ Distance covered by elevator A in 1 s = $\frac{448}{28}$ = 16 m
Elevator B takes 28 s to cover 130 m.
$\therefore$ Distance covered by elevator A in 1 s = $\frac{130}{13}$ = 13 m
Elevator B takes 28 s to cover 85 m.
$\therefore$ Distance covered by elevator A in 1 s = $\frac{85}{5}$ = 17 m
Hence, in 1s, elevator D covers more distance as compare to elevators A, B and C. So, elevator D is fastest, while elevator C covers least. Hence, elevator C is slowest.
Now, elevator B covers distance in 140 s = 140 $\times$ 16 = 2240 m [distance = speed $\times$ time]
Elevator C covers distance in 140s = 140 $\times$ 13 = 1820m
$\therefore$ Elevator B covers more distance than C = 2240 -1820 = 420m

56. i. Number of students in a hostel and consumption of food are directly proportional to each other. e.g. Let 200 students in a hostel can consume 100 kg of rice in a month. Then, 400 students in a hostel can consume 200 kg of rice in a month.

ii. Area of the walls of a room and the cost of whitewashing the walls are directly proportional to each other. e.g. Let ₹1000 required for whitewashing a room with (12 $\times$ 8) m size. Then, ₹2000 required for whitewashing a room with (12 $\times$ 16) m size.

iii. The number of people working and the quantity of work are directly proportional to each other. e.g. Let 20 workers can complete 20% of a work. Then, 40 workers can complete 40% of the same work.

iv. Simple interest on a given sum and the rate of interest are directly proportional to each other.
e.g. Let P = ₹1000, R = 10% and T = 1 yr
$\therefore \quad \text{SI} = \frac{P\times R\times T}{100} = \frac{1000\times10\times1}{100}$ = ₹ 100
But if P = 1000, R = 20% and T = 1 yr
$\therefore \quad \text{SI} = \frac{P\times R\times T}{100} = \frac{1000\times20\times1}{100}$ = ₹200

v. Compound interest on a given sum and the sum invested are neither depend directly nor inversely.

OR

i. The quantity of rice and its cost are directly proportional to each other, e.g. Let 1 kg of rice price = ₹40
Then, 2 kg of rice price = ₹2 $\times$ 40 = ₹80

ii. The height of a tree and the number of years are neither directly nor inversely proportional to each other.

iii. Increase in cost and number of shirts that can be purchased, if the budget remains the same are inversely proportional to each other.
e.g. Let 2 shirts price = ₹800
After increasing in price of each shirt,

1 shirt price became ₹800
where budget = ₹800

iv. Area of land and its cost are directly proportional to each other,

e.g. Let 200 m^2 land cost = ₹5000

Then, 400 m^2 land cost = ₹10000

v. Sales tax and the amount of the bill are directly proportional to each other,

e.g. Let bill amount = ₹1000

Sales tax = 10%

Then, sales tax = $\frac{10}{100} \times 1000$ = ₹100

But if, bill amount = 2000

Sales tax = 10%

Then, sales tax $\frac{10}{100} \times 2000 = 10 \times 20$ = ₹200

57. In order to factorize $x^2 + 5x - 36$, we have to find two numbers p and q
Such that $p + q = 5$ and $pq = -36$
Clearly, $9 + (-4) = 5$ and $9 \times -4 = -36$
So we write the middle term 5x of $x^2 + 5x - 36$ as $9x - 4x$
$\therefore x^2 + 5x - 36 = x^2 + 9x - 4x - 36$
$= (x^2 + 9x) - (4x + 36)$
$= x(x + 9) - 4(x + 9)$
$= (x + 9)(x - 4)$

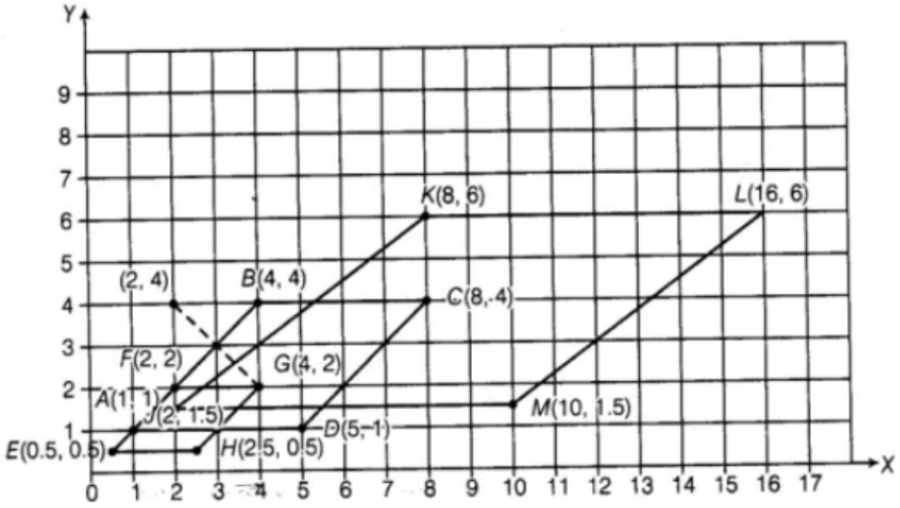
58. we have $a^2 - 1 + 2x - x^2$
$= a^2 - (1 - 2x + x^2)$
$= a^2 - (1^2 - 2 \times 1 \times x + (x)^2)$
$= a^2 - (1 - x)^2$
$= \{a - (1 - x)^2$
$= \{a - (1 - x)\} \{a + (1 - x\}$
$= (a - 1 + x)(a + 1 - x)$

59. a. The graph shows "Max temperature of the days of a week"
b. Friday
c. Saturday
d. Sunday

60. According to the given information, the table can be Completed as shown below:

Table			
Points	**(0.5x, 0.5y)**	**Points**	**(2x, 1.5y)**
E	(0.5, 0.5)	J	(2, 1.5)
F	(2, 2)	K	(8, 6)
G	(4, 2)	L	(16, 6)
H	(2.5, 0.5)	M	(10, 1.5)

According to the above table, the graph is shown below:



YEARLY SCIENCE REVSION WORKSHEET

Class 08 - Science

Section A

1. Define Natural resources. **[1]**
2. Which zone of flame has highest temperature? **[1]**
3. What type of substances produce flame? **[1]**
4. What is meant by the term 'fuel'? **[1]**
5. Choose the correct option.The right meal for adolescents consists of **[1]**
   (i) chips, noodles, coke.
   (ii) chapati, dal, vegetables.
   (iii) rice, noodles and burger.
   (iv) vegetable cutlets, chips and lemon drink.
6. Choose the correct option.Adolescents should be careful about what they eat, because **[1]**
   (i) proper diet develops their brains.
   (ii) proper diet is needed for the rapid growth taking place in their body.
   (iii) adolescents feel hungry all the time.
   (iv) teste buds are well developed in teenagers.
7. What happens when egg is fertilized? **[1]**
8. What is fluid friction? **[1]**

   OR

   What are fluids?
9. Why is a layer of zinc-coated over iron? **[1]**
10. Define electroplating. **[1]**
11. What is the function of iris? **[1]**
12. Define angle of reflection. **[1]**

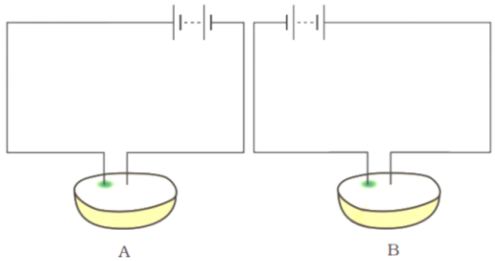
Section B

13. If you hold a piece of iron wire with a pair of tongs inside a candle flame or a Bunsen burner flame, what will you observe? Will it produce a flame? **[2]**
14. Why is natural gas considered the best fuel for transportation? **[2]**
15. You are provided with three watch glasses containing milk, petrol, and mustard oil, respectively. Suppose you bring a burning candle near these materials one by one, which material(s) will catch fire instantly, and Why? **[2]**
16. Write the name and function of one male and one female sex hormone. **[2]**
17. Name the hormone which would be released during the situation a frightened person. **[2]**
18. Which type of food are good for adolescents? **[2]**
19. What is echolocation? **[2]**

20. Suppose a stick is struck against a frying pan in a vacuum. Will the frying pan vibrate? Will we be able to hear the sound? Explain. **[2]**

21. What is the application of chemical effects of electricity in our daily life? Give examples. **[2]**

22. Observe figure. **[2]**



Which of these two circuits A or B shows the correct observation?

23. Which part of the eye gets affected if someone is suffering from cataract? How is it treated? **[2]**

24. How does a night bird see the object? What is the difference in the structure of the eyes of night bird and day light birds? **[2]**

25. Look at the figure. Can the image of the child in it be obtained on a screen? **[2]**

OR

The angle between incident ray and reflected ray is 60°. What is the value of angle of incidence?

Section C

26. Define combustion. Write the conditions necessary for combustion. **[3]**

OR

Anu wants to boil water quickly in a test tube. On observing the different zones of the flame, she is not able to decide which zone of the flame will be best for boiling water quickly. Help her in this activity.

27. Although wood has a very high calorific value, we still discourage its use as a fuel. Explain. **[3]**

28. What are combustible and non-combustible substances? Explain with examples. **[3]**

29. List conditions under which combustion can take place. **[3]**

30. What are the secondary sexual characters in girls? **[3]**

31. What are endocrine glands? Write the names of hormones and the functions of thyroid, pancreas and adrenal glands. **[3]**

32. Write a short note on AIDS. **[3]**

33. a. What is one vibration in a second called as? **[3]**
    b. What is oscillation? A vibrating object produces 156 waves in four second. Calculate the frequency of the vibrating object.

34. A pendulum oscillates 40 times in 4 seconds. Find its time period and frequency. **[3]**

[3]

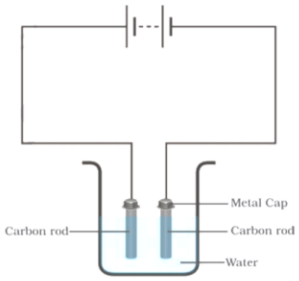
35. a. Which wave property determines:

i. loudness

ii. pitch

b. What is Sound?

36. Boojho made the circuit shown in figure. He wanted to observe what happens when an electric current is passed through water. But he forgot to add a few drops of lemon juice to water. Will it make any difference to his observations? Explain. **[3]**

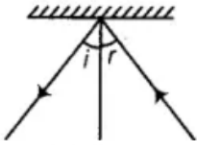


37. Are conductors and electrolytes same? If not explain differences between them with examples. **[3]**

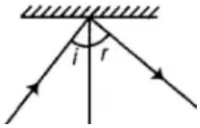
38. Write the differentiate between Luminous and Non Luminous objects. **[3]**

39. There is a mistake in each of the following ray diagrams given as a figure a, b, and c. Make the necessary correction (s). **[3]**

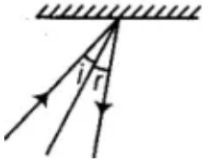
a.



b.

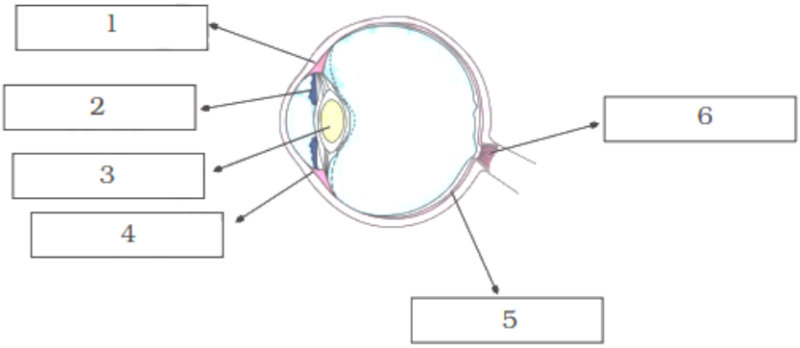


c.



OR

Write down the names of parts of the eye in the blank spaces shown in the figure.



Section D

40. State the reason for LPG is a better domestic fuel than wood. **[4]**

41. How can combustion be classified? **[4]**

42. Green leaves do not burn easily while dry leaves catch fire easily. Why? **[4]**

43. What are primary and secondary fuels? Give examples. **[4]**

44. What do you mean by taboos? Recall any two taboos that you might have heard? **[4]**

45. What do you mean by hormones? Explain the function of male and female hormones? **[4]**

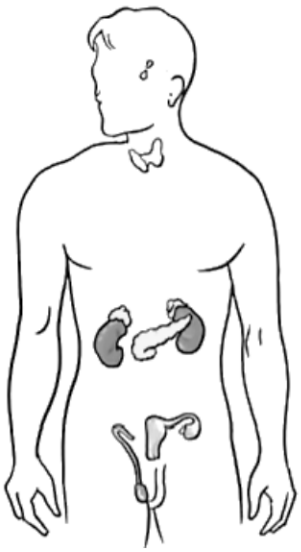
OR

Discuss the menstrual cycle.

46. It is believed that the height of a child depends upon the genes inherited from parents. However, it is often seen that tall parents may have short children and vice-versa. Are there factors other than genes, that can cause these variations? **[4]**

OR

In the given below fig. mark the positions of the endocrine glands which release the hormones that:



i. controls the release of sex hormones.
ii. is responsible for the secondary sexual characters in boys.
iii. prevents diabetes.
iv. maintains the correct salt balance in the blood.

47. What would happen if there were no voice boxes in our throat? **[4]**

OR

Sound needs a material medium to propagate. Explain?

OR

Write the applications of the ultrasound.

48. What is noise pollution? How does it affect us and how it can be prevented? **[4]**

OR

What is eardrum? How does it is play an important role in hearing?

OR

What do you mean by loudness and pitch of sound and how they are affected?

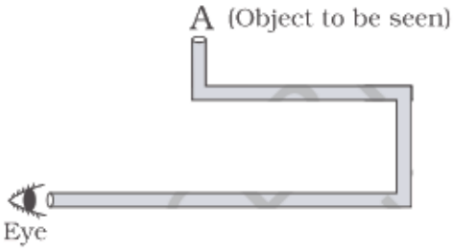
49. What is electrolysis? What are the signs of electrolysis? **[4]**

50. a. Name three types of substances in which an electric current can produce a chemical effect. **[4]**
    b. State some of the characteristics of chemical changes brought by the chemical effect of electric current?

51. What do you mean by electroplating? How does it take place? **[4]**

52. What is the power of accommodation of the eye? **[4]**

53. Boojho planned activity to observe an object A through pipes as shown in the figure, so that he could see objects which he could not directly see. **[4]**



a. How many mirrors should he use to see the objects?
b. Indicate the positions of the mirrors in the figure.
c. What must be the angle with respect to the incident light at which he should place the mirrors?
d. Indicate the direction of the rays in the figure.
e. If any of the mirrors is removed, will he be able to see the objects?

54. Boojho while waving his hand very fast in front of his eyes, observes that his fingers appear blurred. What could be the reason for it? **[4]**

Section E

55. Fill in the blanks: **[6]**

a) L.P.G. is a _____ fuel which is best to use at the domestic level.
b) Cell is discovered in the year _____.
c) The sex hormones, _____ and estrogen are responsible for the development of _____ characters.
d) The passage of an electric current through a solution causes _____ effects.
e) A person 1m in front of a plane mirror seems to be ____ m from his image.
f) Reflection from a rough surface is called _____ reflection.

Solution

YEARLY SCIENCE REVSION WORKSHEET

Class 08 - Science

Section A

1. The resources, that are obtained in nature are called Natural resources, for example, air, water, soil and minerals.
2. The outer zone is the hottest part of a candle flame. outer zone also known as non-luminous zone.
3. The substances which vapourise during burning give flame.
4. A fuel is a substance, which may be burnt to produce considerable heat without the formation of objectionable products.
5. (ii) Chapati, dal, vegetables.
6. (ii) proper diet is needed for the rapid growth taking place in their body.
7. In case the egg is fertilized it begins to divide and then gets embedded in the uterus for further development. At last the fertilized egg is developed into a foetus.
8. Air is very light and thin. Yet it exerts frictional force on objects moving through it. Similarly, water and other liquids exerts force of friction when objects move through them. In science, the common name of gases and liquids is fluids. So we can say that fluids exert force of friction on objects in motion through them.
   The frictional force exerted by fluids is also called drag.

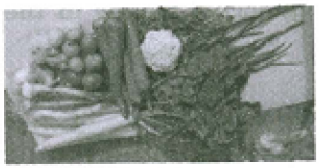
   OR

   Commonly gases and liquids are called fluids.
9. Layer of zinc is coated over iron because zinc prevents it from rust and corrosion.
10. The coating of a layer of desired metal on other metallic surface by passing electric current is called electroplating.
11. The iris increase and decrease the size of pupil and regulate the amount of light that enters through the pupil.
12. The angle between the normal and reflected ray is called angle of reflection.

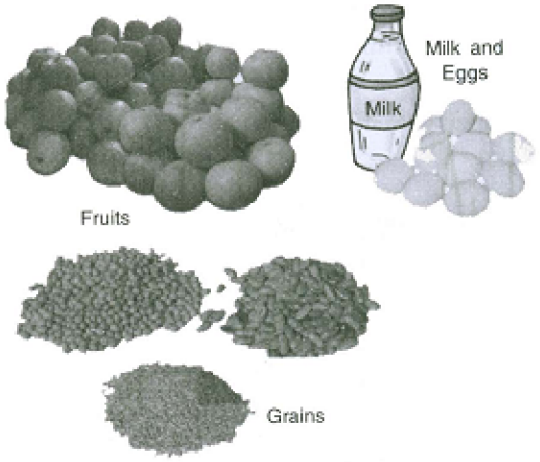
Section B

13. Iron wire will become red hot and glow. It will not produce a flame.
14. It is considered the best fuel for transportation because it can be directly supplied from the gas well to the factories or homes through underground pipelines.
15. The watch glass containing petrol will catch fire instantly because its ignition temperature is very low. Also, petrol is an inflammable substance, ie. it can easily catch fire with a flame.
16. (i) Male sex hormone is testosterone which is produced by testes. It produces secondary sexual characters in males and supports the production of sperms.
    (ii) Female sex hormone is estrogen which is produced by ovaries. It produces secondary sexual characters in female and prepare uterus for receiving the embryo.
17. Adrenaline is secreted from the adrenal gland during the stress conditions like fright or fear, anger, worry, or embarrassment. The hormone prepares the body to function at maximum efficiency by increasing the heart-beat and breathing rate, raising B.R, etc.
18. Leafy vegetables, joggery, meat, citrus, milk, fruits, grains, amla are the good for adolescents.

Meat



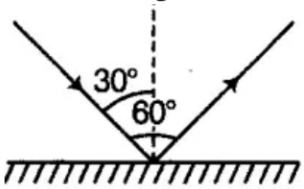
Vegetables



19. Echolocation is nothing but just a reflection of sound. For example- when you throw a ball on a wall, it hits the wall and bounces back. Same is the case with sound waves. When sound wave travels, it hits things which come in its path and bounces back. This phenomenon is called reflection of sound or echo. To hear the echo, one should be at 17m distance from the reflected surface.
20. Yes, the frying pan will vibrate. Since it is being hit by the stick but vibrations need a medium to travel and there is no medium in a vacuum, so we cannot hear the vibrations produced.
21. Carrying chemical reactions by the effect of electricity is called chemical effect of electric current.
    Example of Chemical Effect
    (i) Electroplating : One metal is coated on the other substance or metal by the effect of electric current. This is called electroplating.
    (ii) Electrolysis : The compound is decomposed into its constituents under the effect of electric current is called electrolysis.
22. It is not clear from the diagram what is A and B. So, we cannot predict the actual solution. But this seems to be a potato and the correct diagram is A because the positive terminal makes the greenish-blue spot on the potato, due to the chemical effect of current in the potato.
23. In people (particularly old aged) suffering from cataract, the eye lens becomes clouded. Cataract is treated by replacing the opaque lens with a new artificial lens.
24. Night bird (owl) can see very well in the night but not during the day. On the other hand, day light birds (kite, eagle) can see well during the day but not in the night. The owl has a large cornea and a large pupil to allow more light in its eye. Also, it has on its retina mostly rods and only a few cones. As we have seen above, cones are more sensitive to bright light and rods to dim light. The day birds on the other hand, have more cones and a fever rods.
25. The image of the child cannot be obtained on the screen because the image is not real. The images formed by the plane mirror are virtual, so these virtual images cannot be seen (or obtain) on the screen.

    OR

    Since the angle of incidence = angle of reflection. So, angle of incidence = 30^{o}



Section C

26. The chemical process in which a substance burns in the presence of oxygen and releases heat and light is called combustion. The conditions necessary for the combustion are as follows:
    a. Combustible substance is required which acts as a fuel for combustion.
    b. Supporter of combustion is the oxygen which is necessary for combustion.
    c. Ignition temperature at which the combustible substance catches fire has to be maintained.

    OR

    Anu should keep her test tube in the outermost zone or non-luminous zone of the flame because it is the hottest zone of a flame and has more temperature. In the outer zone of a flame, complete combustion of the fuel takes place because there is plenty of air around it so, water in a test tube will boil quickly in this zone.

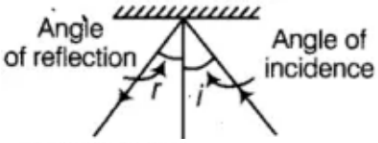
27. Burning of wood has several disadvantages. These are as follows:
    i. The burning of wood produces a lot of smoke which causes respiratory diseases.
    ii. The cutting down of trees to obtain as a wood fuel leads to deforestation which is very harmful to the environment.
    iii. Trees provide us many-useful substances. To obtain fuel-wood, when trees are cut down, then all useful substances which can be obtained from trees are lost.
28. Substances that burn in air or oxygen to produce heat and light are called **combustible substances**. E.g. Paper, wood , coal.
    Substances which do not burn in air or oxygen to produce heat and light are called **non-combustible substances**. E.g. Water, Glass, iron nail.
29. There are three essential conditions of combustion :
    (a) Presence of a combustible substance.
    (b) Presence of oxygen, i.e. supporter of combustion.
    (c) Attainment of ignition temperature.
30. In girls, breasts begin to develop at the time of puberty. These features help us to distinguish the male from the female. These characters are called secondary sexual characters. Hair grows under the arms and in the region above the thighs or the pubic regions in girls.
31. The glands which have no any duct to pour their secretions (hormones) into blood directly are called endocrine glands.
    Thyroid: Thyroid is the endocrine gland. It secretes thyroxine hormone. If thyroid does not produce thyroxine, then thyroid glands increase in size and cause a disease called goiter.
    Pancreas: Pancreas is also an endocrine gland which produces insulin hormone. If insulin is not produced sufficient then a person suffers from a disease called diabetes.
    Adrenal: The hormone produced by adrenal gland is called adrenalin. This hormone maintains the correct salt balance in the blood. It also adjusts the body to stress when one is very angry, embarrassed or worried.
32. AIDS is caused by a dangerous virus, HIV. This virus can pass on to a normal person from an infected person by sharing the syringes used for injecting drugs. It can also be transmitted to an infant from the infected mother through her milk. The virus can be transmitted through sexual contact with a person infected with HIV.
33. a. One vibration in a second is called as Hertz.
    b. To and fro motion of a vibrating object is called oscillation.
    Frequency $= \frac{156}{4} = 39Hz$
34. Given that,
    Number of oscillation = 40
    Total time taken = 4 seconds
    Time period = time taken in one oscillation = $\frac{Total\ time}{Total\ number\ of\ oscillation} = \frac{4\ second}{40} = \frac{1}{10}\ second$ = 0.1 second
    Again, frequency = number of oscillations per second = $\frac{Number\ of\ vibration}{Time\ taken} = \frac{40}{4}\ second = 10\ per\ second$ = 10 Hz.
35. a. i. **Amplitude:** The loudness of a sound depends on its amplitude. If the amplitude of a sound is large, then the sound produced will also be loud.
    ii. **Frequency:** The pitch of a sound depends on its frequency. A sound will be considered a high pitched sound, if its frequency is high.
    b. Sound is a wave motion, produced by a vibrating source. Sound is a form of energy that travels in the form of vibrations through the air or any another medium.
36. If it is distilled water, it will not conduct electricity because distilled water has ions scarcity therefore it is considered to be a bad conductor. To make it conductive, biasing it with lemon juice will be necessary. The water will become salty and the current will flow through this and bubbles will show immerging on the electrodes.
37. Materials that allow electricity to flow through them are called conductors. Conductors like, silver, gold, copper, mercury, aluminium, iron, graphite etc are elements and remain unchanged when they conduct electricity. Substances which conduct electricity when dissolved in water or when melted are called

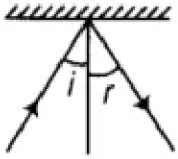
electrolytes. In solution or in molten state, electrolyte decomposes into ions that are charged particles and conduct electricity. Example: common salt, vinegar, caustic soda etc.

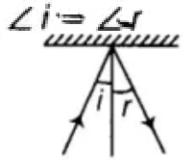
38.

Sr. No.	Luminous objects	Non Luminous objects
1.	The objects which emit their own light are known as luminous objects. They are also called source of light.	The objects which do not emit their own light are known as Non luminous objects.
2.	Examples: The Sun, fire, flame of a candle and an electric lamp.	Examples: Table, chair, the Moon, the planets, a tree, etc.

39. The correct diagrams are as given below:

a.


b.


c.


Normal should be drawn at 90° to the reflecting surface of a mirror.

OR

The names of the parts of the eye as shown in the figure are:

1. Ciliary muscle
2. Iris
3. Lens
4. Cornea
5. Retina
6. Optic nerve

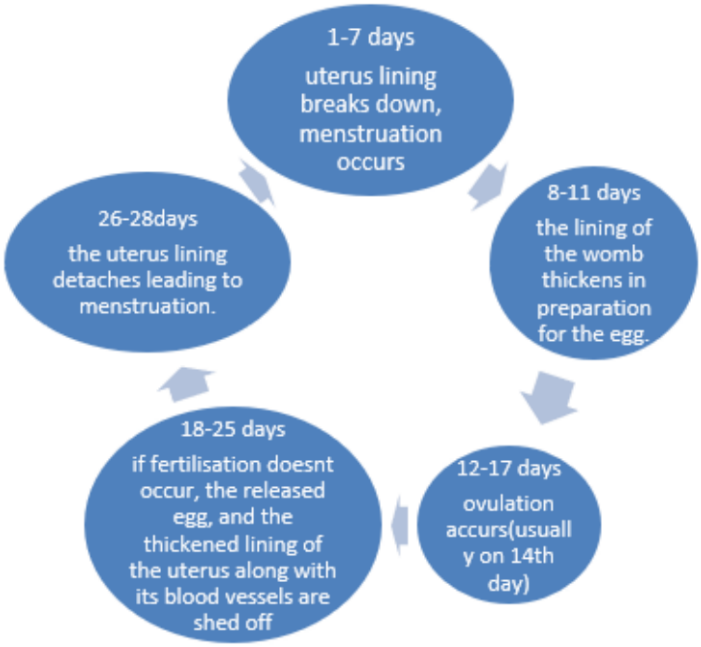
Section D

40. LPG is a better domestic fuel than the wood, the reasons are as follows:
    a. LPG has much higher calorific value than wood, so it produces more heat on burning.
    b. LPG burns without smoke, but wood produces a lot of smoke.
    c. LPG burns completely without leaving any residue but wood leaves a lot of ash on burning.
41. Combustion can be classified according to the rate or speed at which the substance burns:
    a. Slow combustion- This type of combustion takes place at moderate speed, for example burning of coal or wood. Fuel is not burnt completely which results in smoke and some carbon particles.
    b. Rapid combustion – When a substance burns in a short time, the combustion is complete and a large amount of heat and light is produced. For example, LPG in gas stoves.
    c. Spontaneous combustion – The substance catches fire as soon as it reaches its ignition temperature. The material suddenly burst into flames even without the application of heat. For example, white phosphorus catches fire at room temperature.
    d. Explosion- The combustion that takes place suddenly with the evolution of heat, light and sound. A large amount of gas is evolved. For example, bursting of a cracker.
42. Green leaves have moisture so they take time to reach their ignition temperature, hence they take time to catch fire until they reach ignition point.
    Dry leaves on the other hand catch fire easily because they are not having any moisture content, so they can reach their ignition temperature as soon as the source of heat is applied.

43. The fuels which occur in nature and are used as it is present are called primary or natural fuels. For examples, coal and wood.
Some fuels can not be used in their original form i.e. their natural form. They need to be reformed and processed before use. They are called secondary fuels. For example, petrol, diesel.
44. Taboos and myths are the wrong notions which we develop when we listen to someone. There are some myths and taboos regarding bodily changes that adolescents experience.
Some of these are:
    a. A girl becomes pregnant if she looks at boys during menstruation.
    b. The mother is responsible for the sex of a child.
45. Hormones are chemical substances that control the changes which occur at adolescence. These are secretions from endocrine glands.
The testosterone begins to be released by the testes at the onset of puberty. This causes changes in boys like growing of facial hair.
In females, ovaries begin to produce estrogen which makes the breasts develop. Milk secreting glands or mammary glands develop inside the breasts.

OR

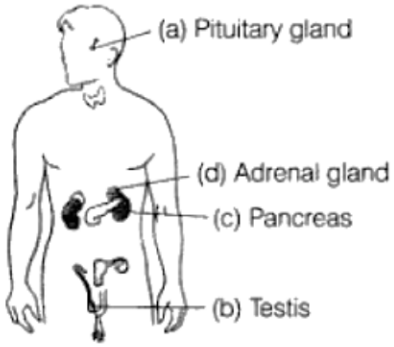
In females the reproductive phase begins at puberty(10-12 yrs of age) and generally lasts till the age of 45 to 50 years.



46. The height of a child depends upon the genes inherited from parents. However, there are some other factors also that can affect height. These factors include a balanced diet, hormones, exercise, and diseases. A balanced diet is essential for adolescents as it helps the bones, muscles, and other parts of the body to get adequate nourishment for growth. Similarly, lack of hormones as growth hormones may lead to dwarfism. Regular exercise is also essential for healthy muscles, bones, and joints and their proper development. Lack of disease is a priority for growth that is related to other factors listed above.
Thus, height depends on a combination of various factors and the absence or deficiency of any one of them can cause variations. This is why tall parents may have short children and vice-versa.

OR

The figure with positions of the endocrine glands marked is given below:



i. **Pituitary gland -** It releases hormones that control the release of sex hormones, i.e. testosterone in males and oestrogen in females.
ii. **Testis -** It releases testosterone, which is responsible for the secondary sexual characters in boys.
iii. **Pancreas -** It releases insulin which prevents diabetes.
iv. **Adrenal gland -** It releases aldosterone that maintains the correct salt balance in the blood.

47. If there were no voice box in our throat, we would not be able to speak or talk because there is nothing to vibrate through which sound can be produced. In voice box there are two vocal cords. When lungs force out air through voice box, the vocal cords vibrate to produce sound.

OR

Sound is produced due to vibration. The vibration makes the air around vibrate and the air vibrations enter the ear. When an object vibrates, it disturbs the air around it. The molecules of air in contact with vibrating objects also start to vibrate. The vibrating air molecules in turn, make more air, it makes a long chain of sound waves. Sound waves travel in all direction through a material medium like air, water or solids, called propagation of sound. Sound cannot travel in absence of medium because in empty space there is no molecules which help the sound to travel.

OR

(i) Ultrasound is used as diagnostic tool in medical science.
(ii) It is used to relieve pains in joints and muscles.
(iii) It is used to detect flaws in metals and structures.
(iv) It is used to test the thickness of various parts.
(v) In the process of electrocardiography, the ultrasonic waves are used to form an image of the heart using reflection and detection of these waves from various parts.
(vi) Medical ultrasound is a diagnostic imaging technique based on ultrasound.
(vii) Ultrasonic waves are used to break stones in the kidney.

48. Noise pollution is the unwanted and displeasing human created sound that disturbs the environment.

Effect of noise pollution

- There are many sources from where noise pollution is created like means of transportation including trains and aircrafts.
- Setup of industries close to the residential buildings, construction work, voice of loudspeakers etc.
- The noise pollution affects both health and behavior.
- It can reduce hearing power of person, become a cause of hypertension, depression and sleep disorders etc.

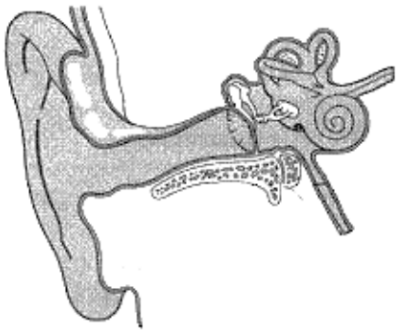
Prevention of noise pollution

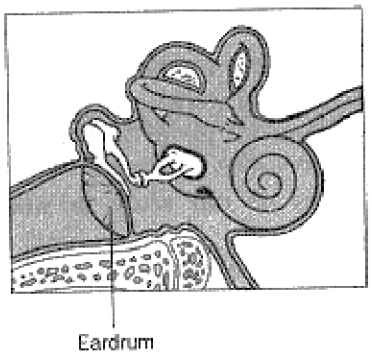
- To control noise pollution, the speed of vehicles should be limited, make strict laws to use loudspeakers and any other noise creating tool .
- Keep the volume of your television under reasonable limits.
- If you have a pet dog, train it not to bark unnecessarily.
- If you have a garden area in front or around your house, plant trees and bushes around your house. Not only do they give out fresh air to breathe, they are also known to absorb sound.

OR

We hear sound through our ears. The shape of the outer part of ear is like a funnel. When sound enters in it, it travels down a canal at the end of which a thin membrane is stretched tightly. It is called the eardrum. It performs an important function.

The eardrum is like a stretched rubber sheets. Sound vibrations make the eardrum vibrate. The eardrum sends vibrations to the inner ear. From there, the signal goes to the brain. That is how we hear.





OR

Loudness and pitch are both the characteristics of sound. Loudness of sound depends upon its amplitude. A vibration with small amplitude produces a low volume or low loud sound whereas a vibration with large amplitude produces a more loud sound.

Pitch is the shrillness or hoarseness of sound. You often notice that voice of male is heavy and hoarse while the voice of female is sharper. This difference in sound is due to frequency of vibrations. High frequency produces shrill and high pitch sound whereas low frequency produces low pitch sound.

49. When electric current is passed through a conducting solution, some chemical reaction takes place in the solution. This is called chemical effect of electric current, or electrolysis. Some of the signs of electrolysis are as follows:
    - Bubbles of gas may be formed at electrodes.
    - Deposits of metal may be seen on electrodes.
    - Change of colour of solution may occur.
50. a. Solution of acids , base and salts can produce chemical effect in the presence of electric current. For example, water (H2O), copper sulphate ($CuSO_4$) etc.

    b. i. When electric current is passed through water, water dissociates into hydrogen and oxygen. Hydrogen is deposited over negative pole and oxygen is deposited over positive pole. Deposition of hydrogen and oxygen at different poles is visible in the form of bubbles.

    ii. When electric current is passed through the solution of a metal salt, such as solution of copper sulphate, metal gets deposited at the negative pole, because metal is positively charged.

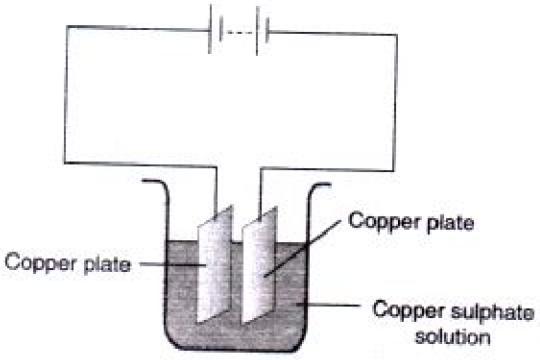
    iii. Sometimes, the colour of solution also changes when electric current passes through it.
51. The process of coating a desired metal on other metal surface by using electric current is called electroplating.

    i. A metal plate and the substance to be coated are dipped in a current conducting solution with conducting wires.

    ii. The object to be coated is attached to the negative terminal.

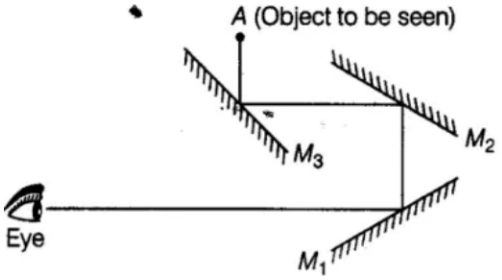
    iii. When electric current is passed through the solution, the compounds of the conducting solution start breaking.

    iv. The free metallic particles get deposited on the object at negative terminal of the battery.
    In this way we can get a coating of desired metal on any object by preparing suitable conducting solution and by using suitable electrodes.

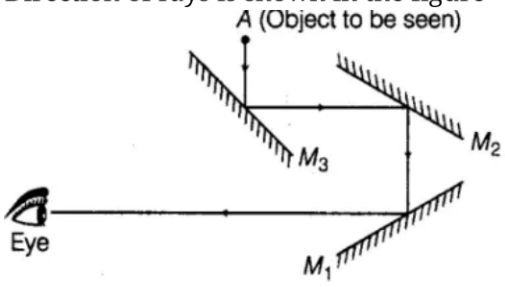


A simple circuit showing electroplating.

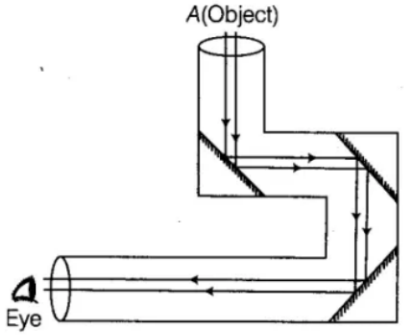
52. The human eye focusses the image for different objects at different distance by changing the focal length of the lens. This is done by the ciliary muscles, which stretch and relax to change the focal length of the lens. This action of the eye is called the power of accommodation of the eye. The most comfortable distance of the normal eye can read is about 25cm. This distance is called the least distance of the eye. The minimum distance at which the eye can see objects distinctly varies with age.
53. a. He should use three plane mirrors to see the objects.
    b. Positions of the mirrors are as shown in the figure.



    c. Mirrors should be placed at an angle of 45^0 with respect to the incident light. So, that the rays can move forward.
    d. Direction of rays is shown in the figure



    Or
    In place of figure, we may also use this combine figure for answer of (b) and (d).



    e. He will not be able to see the objects if any of the mirrors is removed, because he will not get the reflected rays to move forward for further reflection to reach our eyes.
54. The impression of an image persists for about 1/16th of a second on the retina. This is known as persistence of vision. If still images of a moving object are flashed on the eye at a rate faster than 16 per second, then the eye perceives this object as moving.
    So, in the case of waving a hand very fast in front of eyes, the rate of movement of the hand becomes very large (much faster than 16 per second), therefore, the fingers appear blurred.

Section E

55. Fill in the blanks:
    a) 1. gaseous
    b) 1. 1665
    c) 1. Testosterone, Hormones
    d) 1. Chemical
    e) 1. 2
    f) 1. Diffused

YEARLY SOCIAL SCIENCE REVISION WORKSHEET 2021

Class 08 - Social Science

Section A

1. Pick out the year in which the bilingual state of Bombay was divided into separate states for Marathi and Gujarathi. **[1]**

   a) 1965 b) 1960

   c) 1967 d) 1968

2. Name the leader who died fasting for a separate state for Telugu Speakers. **[1]**

   a) Potti Sriramulu b) Alluri Sitaram Raju

   c) None of these d) T.T. Krishnamachari

3. Who was the Deputy Prime Minister of Independent India? **[1]**

   a) Motilal Nehru b) Maukma Azad

   c) Bhim Rao Ambedkar d) Vallabhbhai Patel

4. Based on which of the following did India, after the independence, reorganize the states? **[1]**

   a) On the basis of the population of the state b) On the basis of the area of the state

   c) On the basis of the language spoken d) On the basis of the status/employment of the people

5. Who were the important people behind the organization of the Home Rule Movement in 1916? **[1]**

   a) Mohammed Ali Jinnah and Maulana Abul Kalam Azad b) Bipin Chandra Pal and Aurobindo Ghosh

   c) Annie Besant and Bal Gangadhar Tilak d) Lala Lajpat Rai and Surendranath Banerjee

6. The book Poverty and Un-British Rule in India are authored by: **[1]**

   a) Sarojini Naidu b) Jawaharlal Nehru

   c) Mahatma Gandhi d) Dadabhai Naoroji

7. From the outline map of India, identify the city marked A in Gujarat, where Gandhiji successfully raised the wages of the textile mill workers. **[1]**

a) Ahmedabad
b) Junagadh
c) Rajkot
d) Surat

8. Name the important General who blocked the only exit and ordered to fire at the people assembled in Jalianwala Bagh. **[1]**

a) General Andrews
b) General Charles
c) General Dyer
d) General Michael

9. On which date given below did the British Parliament pass the Indian Independence Act so as to end the British rule and transfer power to the two new dominions of India and Pakistan. **[1]**

a) In March 1947
b) In July 1947
c) In May 1947
d) In September 1947

10. This is an example of a place where religious or cultural activities tend to attract more people. **[1]**

a) Jerusalem
b) Mumbai
c) Sahara
d) Osaka

11. The factors which influence population change are: **[1]**

a) All of these
b) migration
c) birth rate
d) death rate

12. Cite an example from the following which shows that people usually avoid extreme climates. **[1]**

a) Nile in Egypt
b) Polar regions of Russia
c) Jerusalem
d) Vatican City

13. Birth rate refers to: **[1]**

A. the number of deaths per 1,000 people.
B. the number of infants died per 1,000 people.
C. the number of people moving from one place to another.
D. the number of live births per 1,000 people.

a) Only B
b) Only D
c) Only C
d) Only A

14. An individual who buys goods for personal use and not for resale is: **[1]**

a) Owners

b) Consumer

c) Producer

d) Investors

15. Only three states published the plan of child labour prevention act these are : **[1]**

a) Maharashtra, Haryana and Tamil Nadu

b) Maharashtra, Karnataka and Tamil Nadu

c) Maharashtra, Odisha and Tamil Nadu

d) Maharashtra, Kerala and Tamil Nadu

Section B

16. What did Dr. Ambedkar mean when he said 'In politics, we will have equality and in social and economic life we will have inequality'? **[2]**

17. State whether each of the following statements is True or False. **[2]**

(i) The adiuasis or the Scheduled Tribes were not granted reservation in seats and jobs.

(ii) Dr. B.R. Ambedkar belonged to a Marathi-speaking dalit family.

(iii) Bridges and dams became the symbol of development in free India

18. Observe the pictures subsequently and answer the questions that follow: **[2]**

Questions:

i. What is the person addressing the audience?

ii. What is he speaking about?

19. Write a brief note on Khan Abdul Ghaffar Khan. **[2]**

20. What was the Khilafat agitation? **[2]**

21. What was the impact of forest laws? **[2]**

22. Give a brief description of all the three Anglo – Maratha wars. Also, write the main consequences. **[2]**

23. What is meant by population composition? **[2]**

24. Write a short note on Ministry of Human Resource Development. **[2]**

25. How can you say that there are great inequalities in water use? **[2]**

26. Mention the condition of poor people and middle at the time of shortage of water. **[2]**

27. Why is the perceived worth of an Indian worker so low? **[2]**

28. Why do foreign companies come to India? **[2]**

29. What climatic conditions are needed for rice production? **[2]**

Question No. 30 to 31 are based on the given text. Read the text carefully and answer the questions:

Rain water or river water stored in dams is made to fall from heights. The falling water flows through pipes inside the dam over turbine blades placed at the bottom of the dam. The moving blades then turn

the generator to produce electricity. Hydel power is clean, and it promotes irrigation and fishing. The temperature in the interior of the earth rises steadily as we go deeper. Some times this heat energy may surface in the form of hot springs, and this heat energy can be used to generate power. Conventional sources of energy, like coal and oil, are limited and harmful. So we must look for cleaner, renewable sources of energy, like biogas. It is available at a low cost and biogas plants are easy to operate. Wind is a clean and inexhaustible source of energy, and wind mills are used to lift water, grind grain, and generate electricity. Rain water or river water stored in dams is made to fall from heights. The falling water flows through pipes inside the dam over turbine blades placed at the bottom of the dam. The moving blades then turn the generator to produce electricity, and the discharged water is used for irrigation. One fourth of the world's electricity is produced by hydel power, and China, Brazil, and Paraguay are the leading producers. Major hydel power stations in India are at Bhakra Nagal, Gandhi Sagar, Nagarjunsagar, and Damodar Valley.

30. What are the disadvantages of hydro-electric power? **[1]**

a) it damages the quality of the landform
b) it is cheap to set up
c) it promotes pollution
d) it floods low-lying areas and displaces local communities

31. What is this energy obtained from under the surface of the earth called? **[1]**

a) solar energy
b) wind energy
c) geothermal energy
d) hydel power

32. Describe the inputs, processes and outputs in an industrial system with an example. **[2]**

Section C

33. Why were people dissatisfied with British rule in the 1870s and 1880? **[3]**
34. What were the demands of Moderates in Congress Party? **[3]**
35. Observe the pictures subsequently and answer the questions that follow: **[3]**

Questions:

i. Identify the above personality.
ii. Which state did he belong to?
iii. Write two sentences about him.

36. Observe the pictures subsequently and answer the questions that follow: **[3]**

Questions:

i. Who is he?

ii. Which book did he write?

iii. What was the book about?

37. Under what circumstances a compromise was made with respect to language? **[3]**

38. Why Prime Minister Jawaharlal Nehru was against the creation of linguistic states? **[3]**

39. Briefly describe the three lists of subjects under the constitution of India. **[3]**

40. How have powers and functions of the Central and State Governments been divided by the Constitution? **[3]**

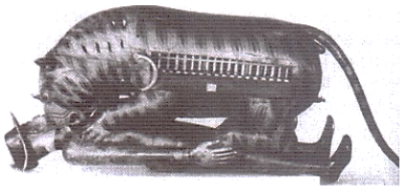
41. Examine the important characteristics of a public facility. **[3]**

42. Why does water flow in a trickle in summer in most places in India? **[3]**

43. Why alternative is looked in place of the government for the public facilities? **[3]**

44. Each human is a potential resource for society. Define. **[3]**

45. Observe the following picture and answer the question **[3]**



Question:

i. What it is?

ii. Where is it kept?

iii. When did the British take it way?

46. Read the following extract and answer the questions: **[3]**

"In this land of the English how hard it is to live"

In the 1930s Verrier Elwin visited the land of the Baigas – a tribal group in Central India. He wanted to know about them – their customs and practices, their art and folklore. He recorded many songs that lamented the hard time the Baigas were having under Birtish rule.

In this land of the English how hard it is to live
How hard it is love
In the village sits the landlord
In the gate sits the Kotwar
In the garden sits the Patwari
In the field sits the government
In this land of the English how hard it is love
To Pay cattle tax we have to sell cow

To pay forest tax we have to sell bullock

How are we to get our food?

In this land of the English

Quoted in Verrier Elqin and Shamao Hivale, songs of the Maikal

(i) Who were the Baigas?

(ii) Why did Verrier Elwin visit their land?

(iii) What were the songs about?

47. What is farm system? **[3]**

48. List the major industries of the world and where they are located? **[3]**

49. Write common uses of minerals. **[3]**

Section D

50. What was the Rowlatt Act? Give an account of the Rowlatt Satyagraha. **[5]**

OR

Describe Gandhi's march to Dandi. Why Salt March was an effective symbol of resistance against colonialism?

51. Briefly describe Nationalism in Africa. **[5]**

OR

How did the Non- Cooperation Movement gain momentum through 1921-1922?

52. Who were the Moderates? How did they propose the struggle against British rule? **[5]**

OR

Discuss the various forms that the Non-Cooperation Movement took in different parts of India. How did people understand Gandhi ji?

53. Give some detailed descriptions of the features of the Indian Constitution. **[5]**

OR

How is the Indian constitution a living document?

54. Give an. account of the successes and failures of the country during sixty-two years of its independence. **[5]**

OR

Write in brief the process of state formation.

55. Explain the context and special features of India's foreign policy after independence. **[5]**

OR

Briefly describe India's foreign policy and the Non-Aligned Movement.

56. How does population pyramid tell us the story of the people living in a particular country? **[5]**

OR

Why do people move from the mountains to the plains?

57. What is Pradhan Mantri Kaushal Vikas Yojana? **[5]**

OR

What do you mean by population density and distribution?

58. Briefly describe the factors affecting distribution of population. **[5]**

OR

What are the bad effects of the population explosion on society? How does the population pyramid help in understanding the population of the country?

59. What is the situation of water supply in different localities of Chennai? Is water available to **[5]**

all?

OR

Give a brief account of the public water supply in Porto Alegre, Brazil.

60. How was the environment treated earlier? What has been the change in perception? Discuss. **[5]**

Solution

YEARLY SOCIAL SCIENCE REVISION WORKSHEET 2021

Class 08 - Social Science

Section A

1. **(b)** 1960
   Explanation: A little later, in 1960, the bilingual state of Bombay was divided into separate states for Marathi and Gujarati speakers.
2. **(a)** Potti Sriramulu
   Explanation: On 15 December 1952, fifty-eight days into his fast, Potti Sriramulu died.
3. **(d)** Vallabhbhai Patel
   Explanation: Deputy Prime Minister Vallabhbhai Patel was against the creation of linguistic states.
4. **(c)** On the basis of the language spoken
   Explanation: After the independence, reorganization of the states was done on the basis of Linguistic States.
5. **(c)** Annie Besant and Bal Gangadhar Tilak
   Explanation: Home Rule League, either of two short-lived organisations of the same name in India established in April and September 1916, respectively by an Indian militant nationalist, Bal Gangadhar Tilak, and British social reformer and Indian independence leader Annie Besant.
6. **(d)** Dadabhai Naoroji
   Explanation: Through this book, Dadabhai Naoroji criticised the British policies which led to poverty in the country.
7. **(a)** Ahmedabad
   Explanation: In February March 1918, there was a conflict between Gujarat Mill owners and the workerson the question of plague bonus of 1917. Under the leadership of Gandhiji there was a strike in the cotton mills where Gandhiji used the weapon of Hunger strike.
8. **(c)** General Dyer
   Explanation: On April 13, 1919, people gathered in a parkin Amritsar, called the Jallianwala Bagh, to protest against the arrest of national leaders in Punjab. The peaceful gathering was attended by men, women, and children. General Dyer, the military commander of Amritsar, came to the park with some solders and blocked the only entrance of the park. He then ordered his men to open fire.
9. **(b)** In July 1947
   Explanation: The Act received the Royal assent on 18th July 1947 and Pakistan came into being on 14th August and India came into being on 15th August 1947.
10. **(a)** Jerusalem
    Explanation: Places with religion or cultural significance attract people. Varanasi, Jerusalem and Vatican city are some examples.
11. **(a)** All of these
    Explanation: All of these.
    The factors which influence population change are:
    i. birth rate.
    ii. death rate.
    iii. migration.
12. **(b)** Polar regions of Russia
    Explanation: People usually avoid extreme climates that are very cold like polar regions of Russia, Canada, and Antarctica.
13. **(b)** Only D
    Explanation: Birth rate refers to the number of live births per 1,000 people. Births are usually measured using the birth rate.

14. **(b)** Consumer
Explanation: Consumer is a person who buys goods for personal use and not for resale.

15. **(b)** Maharashtra, Karnataka and Tamil Nadu
Explanation: The central government had asked state governments to develop plans to rescue and rehabilitate children who are working as domestic servants. To date,only three state governments, namely Maharashtra, Karnataka and
Tamil Nadu have published these plans.

Section B

16. i. He wanted to say that in politics we will be recognising the principle of one man and one vote and one value.
ii. In social and economic life we shall by reason of our social and economic structure continue to deny the principle of one man one value.

17. (i) False, (ii) True, (iii) True,

18. i. Jawaharlal Nehru is addressing the audience.
ii. He is introducing the resolution that outlined the objectives of the Constitution.

19. Khan Abdul Ghaffar Khan was the Pashtun leader from the North-West Frontier Province. He was popularly known as Badshah Khan. He founded the Khudai Khidmatgars, which was a powerful non-violent movement among the Pattans of his province. He was a staunch supporter of Hindu-Muslim unity and was strongly opposed to the partition of India. He criticised his Congress colleagues for agreeing to the division of India in 1947.

20. In the year 1920 the British imposed a harsh treaty on the Turkish Sultan, known as Khalifa. It enraged people. Indian Muslims wanted that the Khalifa be allowed to retain control over Muslim sacred places in the erstwhile Ottoman empire. The leaders of the Khilafat agitation Mohammad Ali and Shaukat Ali, now wished to start a full-fledged Non-Cooperation Movement. They got support from Mahatma Gandhi who urged the Congress to campaign against 'Punjab wrongs', the Khilafat wrong and demand swaraj.

21. i. Many tribal groups reacted against the colonial forest laws.
ii. They disobeyed the new rules and continued with practices that were declared illegal and at times rose in open rebellion.

22. The company waged a series of wars against the marathas in order to crush Maratha power:
(a) In the first war, there was no clear victor, hence it ended in 1782 with the Treaty of Salbai.
(b) The second Anglo – Maratha War began in 1803 and ended in 1805. This war was fought on different fronts resulting in the British gaining Orissa and the territories north of the Yamuna river including Agra and Delhi.
(c) The Third Anglo – Maratha war of 1817 – 1819 crushed Maratha power. The Peshwa was removed. The company now had complete control over the territories south of the Vindhyas.

23. Population composition is the structure of the population of a particular region. It assists in finding out the number of males and females in the population, their age groups, education and technological know-how, occupations, health conditions, level of income etc. It is the main pillar of the population studies.

24. The government of India has a Ministry of Human Resource Development. The ministry was created in 1985 with an aim to improve people's skills and paying special attention to disadvantaged groups like the poor, females and minorities. This just shows how important are people as a resource for the country.

25. It is a fact that there are great inequalities in water use. The supply of water per person in an urban area in India should be about 135 litres (about seven buckets) per day. It is a standard set by the Urban Water Commission. But people living in slum areas have to do with less than 20 litres (one bucket) a day per person. At the same time people living in luxury hotels may consume as much as 1,600 litres (80 buckets) of water per day.

26. The burden of shortfalls in water supply falls mostly on the poor. The middle class, when faced with water shortages, is able to cope through a variety of private means such as digging borewells, buying water from tankers and using bottled water for drinking.

27. The perceived worth of an Indian worker is low because of the high population and large-scale unemployment. Here one worker can easily replace another. Since there is so much unemployment, there are many workers who are willing to work in unsafe conditions in return for a wage. Employers use this vulnerability of workers and ignore safety measures in workplaces.

28. Foreign companies come to India for cheap labour. Wages that the companies pay to workers in the USA are far higher than what they have had to pay to workers in poorer countries like India. Thus, companies can save costs and earn higher profits.

29. i. Rice is the staple diet of the tropical and subtropical region.
    ii. Rice needs high temperature, high humidity and rainfall.
    iii. It grows best in alluvial clayey soils which can retain water.

30. **(d)** it floods low-lying areas and displaces local communities
    Explanation: it floods low-lying areas and displaces local communities

31. **(d)** hydel power
    Explanation: hydel power

32. An industrial system consists of inputs, processes and outputs.
    A.Raw materials, labour, costs, transport, power and infrastructure are inputs. In a cotton textile industry for example, inputs are cotton, human labour, transport cost, etc.
    B.Processes are activities done to convert raw material into finished products. In a cotton textile industry, ginning, spinning, weaving, dyeing, etc are processes.
    C.The finished product and all profits earned are the outputs. In a cotton textile industry, the outputs are clothes we wear.

Section C

33. The people were dissatisfied with British rule in the 1870s and 1880s due to following reasons:
    i. The Arms Act was passed in 1878 which disallowed Indians from possessing arms.
    ii. The Vernacular Press Act was also passed in 1878. The act empowered the government to confiscate the assets of the newspaper including their printing presses if the newspaper published anything objectionable.
    iii. The government tried to introduce Ilbert Bill was in 1883. This made provisions for a trial of British or European persons by Indians. Thus, the sought equality between British and Indian judges in the country.

34. In its first twenty years, Congressmen were known as moderates. The demands of moderates were:
    i. Repeal of the Arms Act and Licence Act.
    ii. Moderate demanded a greater voice for Indians in the government and administration.
    iii. Legislative council to be made more representative, Indians be given more power and introduction of legislative councils in provinces where none existed.
    iv. They demanded Indian control over the public purse and raised the slogan "No taxation without representation"
    v. Reduction in the drain of Indian wealth to England.
    vi. Demand for civil service examination to be held in India also.

35. i. Lala Lajpat Rai.
    ii. He belonged to Punjab.
    iii. He was one of the leading members of the Radical group. He criticised the moderates for their politics of petitions:

36. i. He is Dadabhai Naoroji.
    ii. He wrote a book named Poverty and Un-British Rule in India.
    iii. The book offered a scathing criticism of the economic impact of British rule.

37. Several members of the Constituent Assembly believed that the English language should be driven out of India with the British rule. They were of the opinion that Hindi should take place of English language. However, those who did not speak Hindi were of different opinion. T.T. Krishnamachari on behalf of the people of the south strongly opposed Hindi. Some threatened to separate from India if Hindi was imposed on them. Finally, a compromise was made. It was decided that while Hindi would be the ‘official language’ of India, English would be used in the courts, the services, and communications between one state and another.

38. India was divided on the basis of religion. As a result, more than a million people had been killed in riots. Thus, we could not afford further divisions on the basis of language. Prime Minister Jawaharlal Nehru was against the creation of linguistic states because he believed that disruptionist tendencies had come to the fore and to check them, the nation had to be strong and united.

39. The Constitution sought to balance the power between the centre and states by providing three lists of subjects:
    i. **Union list:** Union List includes subjects of national importance i.e. defence of the country, foreign affairs, banking communications and currency, which would be the exclusive responsibility of the Centre.
    ii. **State list:** State List contains subjects of state and local importance i.e. police, trade, commerce, agriculture and irrigation, which would be taken care of principally by the states.
    iii. **Concurrent list:** Concurrent List includes subjects of common interest to both the Union government as well as the state governments i.e. education, forests, trade unions, marriages, adoption and succession.
40. The Indian Constitution gives the division of power in the form of three lists, known as Union List, State List and Concurrent List. The Union List includes subjects such as taxes, defence and foreign affairs. On these subjects the central government makes the laws. The State List includes subjects such as education and health. It is the exclusive responsibility of the state government to take care of these subjects. In the last comes the Concurrent List which contains subjects such as forests and agriculture. On these subjects the Centre and the States have joint responsibility.
41. The important characteristics of a public facility are as:
    i. The benefits of public facilities can be shared by many people.
    ii. A school in the village or city will enable many children to get educated.
    iii. The supply of electricity to an area can be useful for many people like, farmers can run pump sets to irrigate their fields. People can open small workshops that run on electricity, students will find it easier to study.
    iv. Most people in the village will benefit in a sure way or the other by these facilities.
42. **Water flows in a trickle in summer because:**
    i. In summer as water in rivers is less, so the supply of water is also less.
    ii. People need more water for drinking and other household purposes.
    iii. Farmers need more water for irrigation and for their cattle.
    iv. Increase in demand of electricity leads to an increase in demand for water.
    v. Due to evaporation water in water bodies begins to decrease.
43. An alternative is looked in place of the government for the public facilities as:
    i. The shortage of municipal water is often taken as a sign of the failure of government.
    ii. Some people argue that since the government is unable to supply the amount of water that is needed and many of the municipal water departments are running at loss, we should allow private companies to take over the task of water supply.
    iii. According to them, private companies can perform better.
44. People are the nation's greatest resource. Nature's bounty becomes significant only when people find it useful. The people with their abilities and demands turn them into 'resources'. Hence, each human is a potential resource for society. Healthy, educated and motivated people develop resources as per their requirements. In the process, they make several discoveries, inventions and make contributions in several other aspects, leading to the development of their countries and its people.
45. i. It is a toy tiger of Tipu.
    ii. It is kept in the Victoria and Albert Museum in London.
    iii. The British took it away when Tipu sultan died defending his capital Seringapatam on 4 May 1799.
46. (i) The British were a tribal group living in central India.
    (ii) Verrier Elwin visited their land because he was very curious about them. He wanted to know their customs, and practice, their art and folklore.
    (iii) The songs that he recorded lamented the hard time the Baigas were having under British rule.
47. When agriculture or farming is looked at as a system is called farm system. The farming system has three components: Input, Process and Output.
    i. **Inputs:** Seeds, fertilisers, machinery land and labour are important inputs.
    ii. **Processing:** The outputs are obtained by processing activities, like tilling, sowing, irrigating, weeding and harvesting, or breeding in case of an animal farm.
    iii. **Outputs:** It includes crops, dairy, fibre, and poultry products.

48. The world's major industries are the iron and steel industry, the textile industry and the information technology industry.
    i. Locations of iron and steel industry are:
        a. Germany, USA, China, Japan, and Russia.
    ii. Locations of the textile industry are:
        a. India, Hong Kong, South Korea, Taiwan, and Japan.
    iii. Locations of the information technology industry are:
        a. The Silicon Valley of Central California.
        b. The Bangalore region of India.
49. A.Minerals are important in many industries. B.Minerals used in gems are usually very hard. These are then set in varying styles of jewellery.
    C.Iron and copper are metals used in almost everything. Copper is present in everything from coins to pipes and electricity wires.
    D.Silicon, obtained from the mineral quartz, is the base of computer industry.
    E.Aluminium, obtained from bauxite ore, and its alloys are used in aeroplanes due to their light weight. Aluminium is also used in kitchen cookware.

Section D

50. The British passed the Rowlatt Act in the year 1919. The Act curbed fundamental rights such as the freedom of expression and strengthened police powers. The Act was very repressive and therefore it enraged Indians. Prominent leaders of the freedom struggles such as Mahatma Gandhi, Mohammad Ali Jinnah, etc. felt that the government had no right to restrict the basic freedoms of people. They viewed the Act as devilish and tyrannical. Gandhiji decided to oppose this Act. He asked people of India to observe 6 April 1919 as a day of non-violent opposition to the Act, as a day of humiliation and prayer' and hartal. He organised Satyagraha Sabhas to launch the movement. The Rowlatt Satyagraha spread far and wide. It became the first All- India struggle against the British government. In April1 919 several demonstrations and hartals took place in the country. But the government suppressed them taking brutal measures. The Jallianwala Bagh massacre was the climax of its brutality. This incident took place on 13 April in Amritsar on Baishakhi day. Thousands of people had gathered in the Jallianwala Bagh to celebrate the occasion. General Dyre opened fire on them all of a sudden. Both Hindu and Muslim unitedly criticized he British action.

    OR

    Mahatma Gandhi and other prominent leaders of the Freedom Movement thought that it was sinful to tax salt because it is an essential item of our food. In 1930, Gandhiji decided to break this law. Gandhiji felt that his Salt March would become popular and would represent the general desire of freedom from a specific injustice. Gandhiji and his followers marched for over 240 miles from Sabarmati to the coastal town of Dandi where they broke the law by making salt from seawater.
    Salt March was an effective symbol of resistance against colonialism because:
    i. All classes could identify with salt as it was an essential food item.
    ii. Monopoly over manufacturing and selling salt was a sign of oppression of the British.
    iii. Breaking the law would affect the British economy.
51. i. Colonial rule in Africa was dictatorial. Only the "Chiefs" were allowed to rule on behalf of the foreign powers.
    ii. Africans had no decision-making powers or representation.
    iii. The British forcefully took over the land from local owners or users, increased taxes that led to poor working conditions which caused the revolt against Britishers by the Africans.
    iv. In 1957 Ghana became the first sub-Saharan African country to gain independence.
    v. The freedom movement was led by Kwame Nkrumah's Convention People's Party through strikes, boycotts and mass rallies.
    vi. In 1951, this party won a huge electoral victory and opposed the existing system of allowing the Chiefs to nominate representatives to the legislature.
    vii. In 1956, elections to the new Legislative Council were held and the Convention People's Party won and Ghana was proclaimed as an independent nation.

    OR

    During 1921 and 1922 the Non-Cooperation Movement gained momentum in the following way:

i. Thousands of students left government controlled schools and colleges to join the movement.
ii. Boycott of government functions was one of the programmes of the Non-Cooperation Movement.
iii. Many eminent professionals gave up their profession to join the movement. Lawyers like, Motilal Nehru, CR Das, C Rajagopalachari gave up their practices.
iv. Foreign goods were boycotted, liquor shops were picketed and bonfires were lit of foreign cloth.
v. British titles, honorary positions were surrendered, and legislatures were boycotted.
vi. There was a boycott of the elections held under the provision of the 1919 Act.

52. i. In the first twenty years of its existence, the Congress was "moderate" in its objectives and methods. The Congress leaders of this period were called the Moderates.
ii. They proposed to struggle against British rule in non-violent manner which the radicals called "politics of petitions". They wanted to develop public awareness about the unjust nature of British rule.
iii. They believed in goodness and justice of the British and believed in making appeals to the British through speeches and articles.
iv. The moderate leaders wanted to develop public awareness about the unjust nature of British rule.
v. They published the newspaper, wrote articles and exposed the true nature of the British to the Indians.
vi. They criticised British rule in their speeches and sent representatives to different parts of the country to mobilise public opinion.
vii. They believed that their moderate demands would be accepted by the colonial rule.

OR

During 1921 and 1922, the Non-Cooperation Movement gained momentum:

i. In Kheda, Gujarat, Patidar peasants organised non-violent campaigns against the high land revenue demand of the British.
ii. In coastal Andhra and interior Tamil Nadu, liquor shops were picketed.
iii. In the Guntur district of Andhra Pradesh, tribals and poor peasants staged a number of 'forest satyagrahas' to abolish the forest regulations imposed by the British.
iv. In Sindh, the people supported the demands of the Khilafat Movement.
v. In Bengal, the people showed enormous communal unity during the Khilafat and Non-Corporation Movement.
vi. In Assam, the labourers of the plantations demanded an increase in their wages.

People thought Gandhiji as a messiah, someone who could help them overcome their misery and poverty. Peasants believed that he would help them in their fight against zamindars, while agricultural labourers felt that he would provide them with the land.

53. We have a written Constitution which was adopted on 26 January 1950. Features
(a) One feature of the Indian Constitution was that it adopted universal adult franchise. All Indians above the age of 21 (now 18) would be allowed to vote in state and national elections.
(b) Our Constitution guaranteed equality before the law to all citizens, regardless of their caste or religious affiliation.
(c) The Constitution offered special privileges for the poorest and most disadvantaged Indians. The evil practice of untouchability was abolished. Hindu temples were thrown open to all, including the former untouchables. After a long debate, the Constituent Assembly also recommended that a certain percentage of seats in legislatures as well as jobs in government be reserved for members of the lowest castes, including the adivasis.
(d) Our Constitution clearly defined the powers and functions of the central and the state governments. It gave division of power in the form of three lists—a Union List with subjects such as taxes, defence and foreign affairs, which would be the exclusive responsibility of the Centre, a State List of subjects such as education and health, which would be taken care of mainly by the States, a Concurrent List under which would come subjects such as forests and agriculture in which the Centre and the States would have joint responsibility.

OR

The Indian Constitution is called a living document because it can be amended or changed. Our Constitution accepts the necessity of modifications according to the changing needs of society. Secondly, in the actual working of the Constitution, there has been enough flexibility of interpretations. The Constitution is an

instrument that societies create for themselves. Thus, both political practice and judicial rulings have shown maturity and flexibility in implementing the Constitution.

54. Sixty-two years of independence have passed. This duration covers a long journey. A lot have been achieved during this time. But at the same time there have been a number of failures. Successes
(a) India is still united and it is still democratic. These achievements definitely make us proud. Many foreign observers had felt that India could not survive as a single country. Others believed that it would come under military rule. Neither of these predictions proved to be true. As many as thirteen general elections have been held since independence, as well as hundreds of state and local elections.
(b) There is a free press and an independent judiciary.
(c) The fact that people speak different languages or practise different faiths has not come in the way of national unity.
Failures :
(a) Deep divisions are still there. Despite constitutional guarantees, people belonging to the lowest castes, such as dalits face violence and discrimination. In many parts of rural India they are not allowed access to water sources, temples, parks and other public places.
(b) The gulf between the rich and the poor has grown over the years. Some groups of people avail all facilities while many others continue to live below the poverty line.
(c) Our Constitution provides equality before the law but in real life this does not happen. Some Indians are more equal than others.

OR

The Congress leaders were in no mood to further divide the country on linguistic lines. This created great disappointment among the Kannada speakers, Malayalam speakers, and the Marathi speakers, and the Telugu speakers, because they had all looked forward to having their own state. The Telugu speakers, however, showed the strongest protests. Their leader Potti Sriramulu went on a hunger fast demanding the formation of Andhra state to protect the interests of Telugu speakers. As the fast went on, it attracted much Hartals and bandhs began to be observed. Meanwhile, Potti Sriramulu died. This incidence intensified the situation. The protests took intense form. This forced the Central Government to give in to the demand and the new state of Andhra Pradesh came into existence on 1 October, 1953. After the formation of Andhra Pradesh, other linguistic communities also demanded their own separate states. Hence, a State Reorganisation Commission was set up, which submitted its report in 1956. It recommended the redrawing of district and provincial boundaries to form compact provinces of Assamese, Bengali, Oriya, Tamil, Malayalam, Kannada and Telugu speakers respectively. The large Hindi-speaking region of north India was broken up into several states. Then in 1960, the bilingual state of Bombay was divided into separate states for Marathi and Gujarati speakers. In the year 1960, the state of Punjab was also divided into Punjab and Haryana, Punjab for the Punjabi speakers and Haryana for the rest who spoke Haryanvi or Hindi.

55. India got freedom soon after the Second World War. A new international body: The United Nations was formed two years before, i.e. in 1945. At this time, many colonial empires were collapsing and new countries were attaining independence. International politics was dominated by the cold war. Prime Minister Jawaharlal Nehru, who was also the foreign minister of India, developed free India's foreign policy in this context.
    i. Non-alignment formed the bedrock of this foreign policy.
    ii. Non-aligned countries such as India played an active role in mediating between the American and Soviet Alliances.
    iii. Non-aligned countries tried to prevent war by taking more stand against war.
    iv. However, for different reasons, many non-aligned countries including India got involved in wars.

OR

Foreign policy:

i. Prime Minister Jawaharlal Nehru, who was also the foreign minister of newly independent India, developed free India's foreign policy.
ii. Non-alignment formed the bedrock of the new foreign policy.
iii. Nehru wished to extend India's support to those countries which were under the control of colonialism and imperialism. He wanted to promote peace and harmony in the world.

Non-Alignment Movement

i. Non-Alignment Movement urged countries not to join the USA or USSR in the war Yugoslavia, Egypt, Indonesia, Ghana, and India were the part of the non-aligned movement.
ii. They remained neutral or isolated by staying away from the two alliances (USA and USSR).
iii. They tried to prevent war by often taking a humanitarian and moral stand against war.
iv. By the 1970s a large number of countries had joined the non- aligned movement.

56. **A population pyramid shows:**
i. The total population divided into various age groups, e.g. 5 to 9 years, 10 to 14 years.
ii. The percentage of the total population, subdivided into males and females, in each of those groups.

The shape of the population pyramid tells the story of the people living in that particular country. The numbers of children (below 15 years) are shown at the bottom and reflect the level of births. The size of the top shows the numbers of aged people (above 65 years) and reflects the number of deaths. The population pyramid also tells us how many dependents there are in a country. There are two groups of dependents: young dependents (aged below 15 years) and elderly dependents (aged over 65 years). Those of the working age are economically active.

OR

- A larger number of people live in the plains than in the mountains or plateaus because these areas are suitable for farming, manufacturing and service activities. The Ganga plains are the most densely populated areas of the world. The plains are the most densely populated regions because They are flat, hence easy to live on and transport goods. Fertile soil is available so agriculture is possible. Rivers are found which is a prominent reason for human settlement.
- The air is thinner at a higher altitude, making it more difficult to get enough oxygen to allow your body to work hard. Steep slopes mean that growing food and building houses is also much more difficult. Travel is tough in the mountains. Roads have to wind, switching back and forth to allow vehicles to climb.

57.
- Pradhan Mantri Kaushal Vikas Yojna (PMKVY) was started in 2015 aiming to train one crore Indian youth from 2016 to 2020. The objective of this scheme is to encourage aptitude towards employable skills by giving quality training to probable and existing wage earners.
- It is basically the flagship scheme of the Ministry of Skill Development & Entrepreneurship (MSDE) implemented by National Skill Development Corporation.
- The objective of this Skill Certification Scheme is to enable a large number of Indian youth to take up industry-relevant skill training that will help them in securing a better livelihood.
- PMKVY Scheme is to encourage aptitude towards employable skills and to increase working efficiency of probable and existing daily wage earners, by giving monetary awards and rewards and by providing quality training to them.

OR

Density of Population:
- Population density is the number of people living in a unit area of the earth's surface.
- It is normally expressed as per square km.
- The average density of population in the whole world is 51 persons per square km.
- South Central Asia has the highest density of population followed by East and South East Asia

Distribution of Population:
- The way in which people are spread across the earth's surface is known as the pattern of population distribution. More than 90 percent of the world's population lives in about 30 percent of the land surface.
- The crowded areas are south and south east Asia, Europe and north eastern North America. Very few people live in high latitude areas, tropical deserts, high mountains and areas of equatorial forests.
- Many more people live north of the Equator than south of the Equator.

58. The main factors which affect the distribution of population are geographical, social, cultural and economic factors.
Geographical Factors: Topography, climate, soil, water, minerals are the geographical factors. People prefer to live on plains rather than mountains and plateaus. People like to live in moderate climates than extremely hot or extremely cold climates. People prefer fertile soil areas for agriculture. Areas with the availability of fresh-water and mineral deposits are densely populated.

Social, Cultural and Economic Factors: Areas of better housing, education, health facilities are more densely populated. Places with religious or cultural significance attract people. Industrial areas provide employment opportunities. A large number of people are attracted to these areas.

OR

Bad effects of population explosion on our society are:

i. A pressure upon resources as there are more people and their quick depletion.
ii. An increased number of poverty-stricken individuals as little food is distributed among more people, then starvation, malnutrition or poor diet with ill health and diet-deficiency diseases would increase.
iii. Loss of natural environment (forests and such) and loss of ecosystems because they are destroyed to make way for farming and urban developments to accommodate the rising population.
iv. Irreversible loss of arable land and an increase in desertification.

A population pyramid is also called the age-sex pyramid. Population pyramid shows:

i. The total population is divided into various age groups For example 5 to 9 years,10 to 14 years.
ii. The percentage of the total population, subdivided into males and females, in each of those groups.
iii. The numbers of children (below 15 years) are shown at the bottom and reflect the level of births.
iv. The size of the top shows the numbers of aged people (above 65 years) and reflects the number of deaths.

59. The situation of water supply in Chennai is not very good. All citizens do not have equal access to water.
    i. **Anna Nagar**, where senior government officials live, in lush green with-maintained lawns due to generous spraying of water. The bungalows here have tap water for a major part of the day. In case the water supply is inadequate, residents here get water tankers arranged easily for themselves.
    ii. **Mylapore** suffers from water shortage. This area gets municipal water once in two days. Residents meet their water needs with the help of private borewells. Borewell water is however brackish, so residents use it in their toilets and for washing. For other uses, water is purchased from tankers. For drinking water, residents have installed water purification systems in their homes.
    iii. **Madipakkam's** house in this city gets water once in four days. Water shortage is an accepted way of life in this area. Residents buy bottled water for drinking.
    iv. **Saidapet** slum dwellers near Saidapet live in hutments that do not have water taps. They collect water for their daily needs from a common tap at the corner of the street. Water is supply to this common tap from a borewell for 20 minutes, twice daily. They get about 3 buckets of water daily. During summer months even this meager supply is reduced.

    OR

    Porto Alegre: It is a city in Brazil. What is remarkable is that despite having a large number of poor people, the city has a far lower number of infant deaths. The average price of water is kept low and the poor are charged half the basic rate. Whatever profit the department earns is used to improve the water supply in the city. The water department functions in a transparent manner; people have a direct say in deciding which projects should be taken up by the government. Through a process of public meetings, people hear what the managers have to say and also vote on their priorities.
60. Earlier, there were very few laws for the protection of the environment in India and there was hardly any enforcement of these laws. The environment used to be treated as a 'free entity' entity. Any industry could pollute the air and water without any restrictions. Whether it was rivers, air or groundwater- the environment was being polluted and the health of people was neglected. There has been a change in perception with regard to the environment, especially after the Bhopal gas tragedy which took place in 1984. It has been realised that the environment needs to be protected for the health and welfare of people as well as future citizens. The courts have also given a number of judgements upholding the right to a healthy environment as intrinsic to the Fundamental Right to Life. Now, there are strict punishments for polluters.