Class VIII Session 2024-25
Subject - Mathematics
Sample Question Paper - 1

Time Allowed: 3 hours **Maximum Marks: 80**

General Instructions:

1. This Question Paper has 4 Sections A-D.
2. Section A has 20 MCQs carrying 1 mark each.
3. Section B has 6 questions carrying 02 marks each.
4. Section C has 8 questions carrying 03 marks each.
5. Section D has 6 questions carrying 04 marks each.
6. All Questions are compulsory.
7. Draw neat figures wherever required. Take π =22/7 wherever required if not stated.

1. Which of the following properties of rational numbers is shown below? **[1]**

$\frac{3}{4} \times \left(\frac{7}{3} \times \frac{-4}{5}\right) = \left(\frac{3}{4} \times \frac{7}{3}\right) \times \frac{-4}{5}$

a) Distributivity of addition over multiplication b) Commutativity of addition

c) Distributivity of multiplication over addition d) Associativity of multiplication

2. The property represented by a × (b + c) = a × b + a × c is **[1]**

a) closure property b) distributive property

c) associative property d) commutative property

3. If $\frac{5x}{3} - 4 = \frac{2x}{5}$, then the numerical value of 2x - 7 is **[1]**

a) $\frac{19}{13}$ b) $\frac{13}{19}$

c) $-\frac{13}{19}$ d) 0

4. Solve: $5t - 3 = 3t - 5$ **[1]**

a) 0 b) 2

c) 1 d) -1

5. For which of the following figures, diagonals are perpendicular to each other? **[1]**

a) Trapezium b) Kite

c) Parallelogram d) Rectangle

6. State the name of a regular polygon of 9 sides. **[1]**

a) heptagon b) octagon

c) nonagon d) Hexagon

7. The length and breadth of a rectangle are in the ratio 4 : 3. If the diagonal measures 25 cm then the perimeter of **[1]**

the rectangle is

a) 70 cm
b) 60 cm
c) 80 cm
d) 56 cm

8. 7396 students are sitting in an auditorium in such a manner that there are as many students in a row as there are rows in the auditorium. How many rows are there in the auditorium? **[1]**

a) 76
b) 86
c) 80
d) 75

9. The smallest number by which 3087 may be multiplied so that the product is a perfect cube, is **[1]**

a) 4
b) 6
c) 5
d) 3

10. Find the cubes of x, 4x and 5x. **[1]**

a) $4x^3$, $9x^3$, $16x^3$
b) x^3, $64x^3$, $125x^3$
c) $8x^2$, $27x^2$, $64x^2$
d) $4x^2$, $9x^2$, $16x^2$

11. Find C.I. on Rs 25,000 for 2 years at 20% per annum compounded annually. **[1]**

a) Rs 12,000
b) Rs 13,000
c) Rs 11,000
d) Rs 10,000

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

a) (r + 7) (r + 3)
b) (r - 7)(r - 3)
c) (r - 7) (r + 3)
d) (r -1) (r - 4)

13. The three-dimensional figure formed by rotating a circle is: **[1]**

a) Sphere
b) Cone
c) Hemisphere
d) Cylinder

14. The following figure represents a: **[1]**

a) Convex polyhedron
b) Cylinder
c) Concave polyhedron
d) Polygon

15. A room is 15 metres long, 4 metres broad and 3 metres high. Find the cost of whitewashing its four walls at 50 P. per m^2. **[1]**

a) ₹ 55
b) ₹ 60
c) ₹ 57
d) ₹ 52

16. If the volume of a cube is 1728 cm^3, then its surface area is: **[1]**

a) 144 cm^2
b) 912 cm^2

c) 864 cm^2 d) 288 cm^2

17. The value of $\left(\frac{2}{5}\right)^{-2}$ is **[1]**

a) $\frac{4}{25}$ b) $\frac{5}{2}$

c) $\frac{4}{5}$ d) $\frac{25}{4}$

18. If $3^{x+8} = 27^{2x+1}$ then the value of x will be: **[1]**

a) 1 b) -2

c) 7 d) 3

19. Simplify: $(-3)^2 \times \left(\frac{5}{3}\right)^2$ **[1]**

a) 4 b) 27

c) 25 d) 8

20. $9m^2 + 12mn + 4n^2$ is same as **[1]**

a) $(3m + 2n)^2$ b) $(3m - 2n)^2$

c) (3m - 2n) d) (3m + 2n)

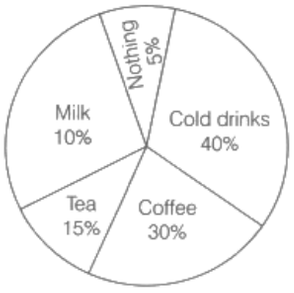
21. Using suitable rearrangement find the sum: $-5 + \frac{7}{10} + \frac{3}{7} + (-3) + \frac{5}{14} + \frac{-4}{5}$ **[2]**

22. Solve the equation and check your result: 5x + 9 = 5 + 3x **[2]**

23. A bag has 4 red balls and 2 yellow balls. (The balls are identical in all respects other than colour). A ball is drawn from the bag without looking into the bag. What is probability of getting a red ball? Is it more or less than getting a yellow ball? **[2]**

OR

A survey was carried out to find the favourite beverage preferred by a certain group of young people. The following pie chart shows the findings of this survey.



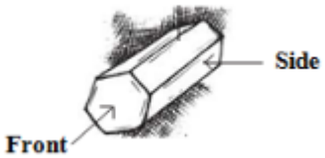
From this pie chart, answer the following:

i. Which type of beverage is liked by the maximum number of people?

ii. If 45 people like tea, how many people were surveyed?

24. The dimensions of a rectangular field are 80 m and 18 m. Find the length of its diagonal. **[2]**

25. For the given solid draw the side view and front view? **[2]**



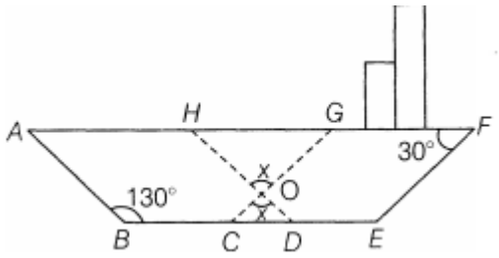
26. Find the value of x, so that $(-2)^3 \times (-2)^{-6} = (-2)^{2x-1}$ **[2]**

OR

Simplify and write in exponential form :$(-2)^{-3} \times (-2)^{-4}$

27. Solve: $5x + \frac{7}{2} = \frac{2}{2}x - 14$ **[3]**

28. In the following figure of a ship, ABDH and CEFG are two parallelograms. Find the value of x. **[3]**



OR

ABCD is a parallelogram. The bisector of angle A intersects CD at X and bisector of angle C intersects AB at Y. Is AXCY a parallelogram? Give reason.

29. 2025 plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. Find the number of rows and the number of plants in each row. **[3]**

30. Is 1188 a perfect cube? If not, by which smallest natural number should 1188 be divided so that the quotient is a perfect cube? **[3]**

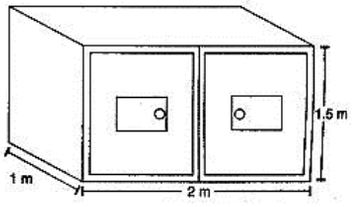
31. The price of a TV is ₹13000. The sales tax charged on it is at the rate of 12%. Find the amount that Vinod will have to pay if he buys it. **[3]**

OR

The marked price of a DVD is ₹4500. A shopkeeper allows two successive discounts of 10% and 5% by the force of a customer. Find the selling price of the customer after two discounts are given.

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

33. Rukhsar painted the outside of the cabinet of measure 1 m $\times$ 2 m $\times$ 1.5 m. How much surface area did she cover if she painted all except the bottom of the cabinet. **[3]**



34. Factorise: $(l + m)^2 - (l - m)^2$ **[3]**

35. Draw a pie chart showing the following information. The table shows the colours preferred by a group of people. **[4]**

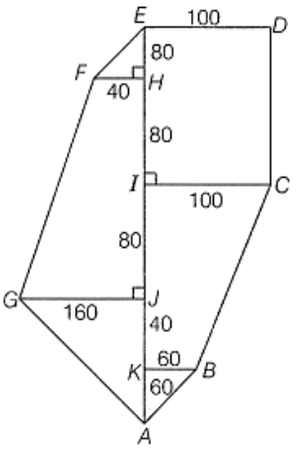
Colours	Number of people
Blue	18
Green	9
Red	6
Yellow	3
Total	36

Find the proportion of each sector. For example, Blue is $\frac{18}{36} = \frac{1}{2}$;Green is $\frac{9}{36} = \frac{1}{4}$and so on.Use thisto find the corresponding angle.

36. A sum of money becomes ₹ 17,640 in 2 years and ₹ 18,522 in 3 years at the same rate of interest compounded annually. Find the rate of interest. **[4]**

37. Find the product of $\left(\frac{1}{2}p^3q^6\right)\left(\frac{-2}{3}p^4q\right)(pq^2)$ **[4]**

38. Find the area of the following fields. All dimensions are in metres. **[4]**



OR

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

39. Factorize $6x^2 - 13x + 6$ **[4]**

OR

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

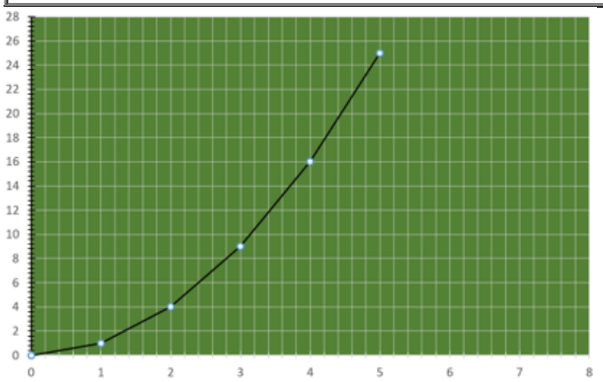
40. Consider the relation between the area and the side of a square given by $A = x^2$. **[4]**

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



Solution

1.

(d) Associativity of multiplication

Explanation: Associativity of multiplication

2.

(b) distributive property

Explanation: Distributive property

3.

(c) $-\frac{13}{19}$

Explanation: $\frac{5x}{3} - 4 = \frac{2x}{5}$

$\frac{5x}{3} - \frac{2x}{5}$ = 4

$\frac{25x-6x}{15}$ = 4

19x = 15 $\times$ 4

x = $\frac{60}{19}$

hence,

2x - 7

= 2 $\times$ $\frac{60}{19}$ - 7

= $\frac{120}{19}$ - 7

= $\frac{120-133}{19}$

=$-\frac{13}{19}$

4.

(d) -1

Explanation: $5t - 3 = 3t - 5$

by transposing both sides

5t - 3t = - 5 + 3

2t = -2

t = -2/2

t = -1

5.

(b) Kite

Explanation: The diagonals of a kite are perpendicular to each other.

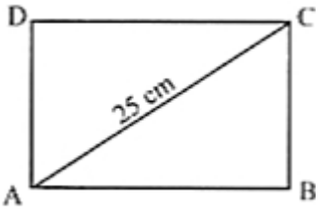
6.

(c) nonagon

Explanation: A nonagon is a plane figure with nine straight sides and nine angles.

7. **(a)** 70 cm

Explanation: Let ABCD be the rectangle.



Let AC be the diagonal, where AC = 25 cm.

Length and breadth of a rectangle are in the ratio 4 : 3

Length of rectangle = 4x and Breadth of rectangle = 3x

By Pythagoras theorem, we have $AB^2 + BC^2 = AC^2$

$\Rightarrow (4x)^2 + (3x)^2 = (25)^2$

$\Rightarrow 16x^2 + 9x^2 = 625$

$\Rightarrow 25x^2 = 625$

$\Rightarrow x^2 = 25 \Rightarrow x = \pm 5$

Since the side of the rectangle cannot be negative, so x = -5 $\therefore$ x = -5

So, length of the rectangle = 4x = 4 $\times$ 5 = 20 cm Breadth of the rectangle = 3x = 3 $\times$ 5 = 15 cm

So, perimeter of the rectangle = 2(l + b)

= 2(20 + 15) = 2(35) = 70 cm

8.

(b) 86

Explanation: Let number of students sitting in a row = 'x'

$\therefore$ Number of rows in auditorium = 'x'

$\therefore$ Number of students sitting in auditorium

$= x \times x = x^2$

Now $x^2 = 7396$

$\therefore x = \sqrt{7396}$

```
      86
   ------------
 8 | 73 96
     64
   ------------
166 | 09 96
      9 96
   ------------
      0 00
```

$\therefore x = \sqrt{7396} = 86$

Number of rows in auditorium = 86

9.

(d) 3

Explanation: Writing 3087 as a product of a prime factors, we have

```
3 | 3087
3 | 1029
7 |  343
7 |   49
7 |    7
  |    1
```

$\therefore 3087 = 3 \times 3 \times \underline{7} \times \underline{7} \times \underline{7}$

Clearly, to make it a perfect cube it must be multiplied by 3.

10.

(b) x^3, $64x^3$, $125x^3$

Explanation: The cubes of $x = x \times x \times x = x^3$

$4x = 4x \times 4x \times 4x = 64x^3$

$5x = 5x \times 5x \times 5x = 125x^3$

11.

(c) Rs 11,000

Explanation: C.I. $= P(1 + \frac{r}{100})^n - P$

$= 25,000(1 + \frac{20}{100})^2 - 25,000$

$= 25,000(\frac{6}{5})^2 - 25,000$

= 36,000 - 25,000

= Rs 11,000

12.

(b) (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 coefficients is equal constant term]

= (r - 7)(r - 3) [$\because x^2 + (a + b)x + ab = (x + a)(x + b)$]

13. **(a)** Sphere
Explanation: Sphere

14. **(a)** Convex polyhedron
Explanation: Convex polyhedron, as it is bounded by plane polygonal faces.

15. **(c)** ₹ 57
Explanation: Area of 4 walls = 2(l $\times$ b] $\times$ h

= 2 $\times$ [15 + 4] $\times$ 3 = 114m^2

Cost of painting at the rate of 50 paisa per m^2

= $\frac{1}{2} \times 114$ = ₹7

16. **(c)** 864 cm^2
Explanation: Let the side of the cube be a cm

a^3 = 1728

a = $\sqrt[3]{1728}$

a = 12 cm

Surface area of the cube = $6a^2$

= 6 $\times$ 12^2

= 6 $\times$ 144

= 6 $\times$ 144

= 864 cm^2

17. **(d)** $\frac{25}{4}$
Explanation: Using law of exponents, $a^{-m} = \frac{1}{a^m}$ [$\because$ a is non-zero integer]

$\therefore \quad \left(\frac{2}{5}\right)^{-2} = \frac{1}{\left(\frac{2}{5}\right)^2} = \frac{1}{\frac{4}{25}} = \frac{25}{4}$

18. **(a)** 1
Explanation: $3^{(x+8)} = 3(2x + 1)$

$3^{x+8} = 3^{6x+3}$

x + 8 = 6x + 3

5x = 5

x = $\frac{5}{5}$

x = 1

19. **(c)** 25
Explanation: = $(-3)^2 \times \left(\frac{5}{3}\right)^2$

= $(9) \times \left(\frac{5^2}{3^2}\right)$

= 9 $\times$ $\frac{25}{9}$

= 25

20. **(a)** $(3m + 2n)^2$
Explanation: $9m^2 + 12mn + 4n^2$

$= (3m)^2 + 2(3m)(2n) + (2n)^2$

$= (3m + 2n)^2$

21. We have, $-5 + \frac{7}{10} + \frac{3}{7} + (-3) + \frac{5}{14} + \left(\frac{-4}{5}\right)$

$= -5 + (-3) + \frac{7}{10} + \left(\frac{-4}{5}\right) + \frac{3}{7} + \frac{5}{14}$

$= -8 + \frac{7-8}{10} + \frac{6+5}{14} = -8 - \frac{1}{10} + \frac{11}{14}$

$= \frac{-560-7+55}{70}$

$= \frac{-512}{70} = \frac{-256}{35}$

22. $5x + 9 = 5 + 3x$

$5x - 3x = 5 - 9$ ... [Transposing 3x to L.H.S. and 9 to R.H.S]

$\therefore 2x = -4$

$\therefore x = -\frac{4}{2}$ ... [Dividing both sides by 2]

$\therefore x = -2$ this is the required solution.

Verification

L.H.S. $= 5(-2) + 9 = -10 + 9 = -1$

R.H.S. $= 5 + 3(-2) = 5 - 6 = -1$

Therefore, L.H.S = R.H.S

23. There are in all (4 + 2 =) 6 outcomes of the event.

Getting a red ball consists of 4 outcomes.

Therefore, the probability of getting a red ball is $\frac{4}{6} = \frac{2}{3}$.

In the same way the probability of getting a yellow ball = $\frac{2}{3} = \frac{1}{3}$.

Therefore, the probability of getting a red ball is more than that of getting a yellow ball.

OR

i. The percentage of people preferring cold drinks is maximum. So, cold drinks is liked by the maximum number of people.

ii. From the pie chart, number of people who like tea = 45

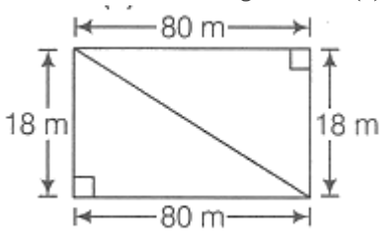
$\Rightarrow$ 15% of total number of people surveyed = 45

$\Rightarrow \frac{15}{100} \times$ Total number of people surveyed = 45

$\therefore$ Total number of people surveyed = $\frac{45 \times 100}{15}$ = 300

24. Here, length of a rectangular field (l) = 80 m

and breadth of a rectangular field (b) = 18 m



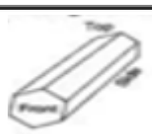
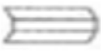
$\therefore$ Length of diagonal = $\sqrt{l^2 + b^2}$

$= \sqrt{(80)^2 + (18)^2}$

$= \sqrt{6400 + 324}$

$= \sqrt{6724}$ = 82 m

25.

Object	Front View	Side View
		

26. We have, $(-2)^3 \times (-2)^{-6} = (-2)^{2x-1}$

Using law of exponents, $a^m.a^n = (a)^{m+n}$ [$\because$ a is non-zero integer]

Then, $(-2)^3 \times (-2)^{-6} = (-2)^{2x-1}$

$\Rightarrow (-2)^{3-6} = (-2)^{2x-1}$

$\Rightarrow (-2)^{-3} = (-2)^{2x-1}$

On comparing both sides, we get -3 = 2x - 1

$\Rightarrow$ 2x = -2 $\Rightarrow$ x = - 1

OR

$(-2)^{-3} \times (-2)^{-4}$

$= (-2)^{(-3)+(-4)}$

$= (-2)^{-7}$

27. $5x + \frac{7}{2} = \frac{3}{2}x - 14$

Multiplying both sides of the equation by 2, we get

$2 \times \left(5x + \frac{7}{2}\right) = 2 \times \left(\frac{3}{2}x - 14\right)$

$(2 \times 5x) + \left(2 \times \frac{7}{2}\right) = \left(2 \times \frac{3}{2}x\right) - (2 \times 14)$

10x + 7 = 3x - 28

10x – 3x = -28 - 7

7x = -35

$x = \frac{-35}{7}$

x = -5

28. We have, two parallelograms ABDH and CEFG.

Now, in ABDH,

$\therefore \angle ABD = \angle AHD = 130°$ [$\because$ opposite angles of a parallelogram are equal]

and $\angle GHD = 180° - \angle AHD = 180° - 130°$ [linear pair]

$\Rightarrow 50° = \angle GHO$

Also, $\angle EFG + \angle FGC = 180°$ [$\because$ adjacent angles of a parallelogram are supplementary]

$\Rightarrow 30° + \angle FGC = 180° \Rightarrow \angle FGC = 180° - 30° = 150°$

and $\angle HGC + \angle FGC = 180°$ [linear pair]

$\therefore \angle HGC = 180° - \angle FGC = 180° - 150° = 30° = \angle HGO$

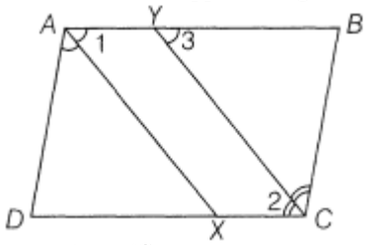
In ΔHGO, by using angle sum property, $\angle OHG + \angle HGO + \angle HOG = 180°$

$\Rightarrow 50° + 30° + x = 180° \Rightarrow x = 180° - 80° = 100°$

OR

Given, ABCD is a parallelogram.

So, $\angle A = \angle C$ [$\because$ opposite angles of a parallelogram are equal]



$\therefore \quad \frac{\angle A}{2} = \frac{\angle C}{2}$ [dividing both the sides by 2]

$\angle 1 = \angle 2$ [alternate angles]

But $\angle 2 = \angle 3$ [$\because$ AB || CD and CY is the transversal]

$\therefore \angle 1 = \angle 3$

But they are pair of corresponding angles.

$\therefore$ AX || YC ....(i)

AY || XC [$\because$ AB || DC] ...(ii)

From Eqs. (i) and (ii), we get

AXCY s a parallelogram.

29. Let the number of rows be x.

Then number of plants in each row = x

$\therefore$ Number of plants in x rows = $x \times x = x^2$

But 2025 plants are to be planted in a garden.

$\therefore x^2 = 2025$

$\therefore x = \sqrt{2025}$

The prime factorisation of 2025 is

3	2025
3	675
3	225
3	75
5	25
	5

2025 = $\underline{3} \times \underline{3} \times \underline{3} \times \underline{3} \times \underline{5} \times \underline{5}$

$\therefore x = \sqrt{\underline{3 \times 3} \times \underline{3 \times 3} \times \underline{5 \times 5}}$

$\therefore$ x = 3 × 3 × 5

$\therefore$ x = 45

Hence, the number of rows is 45 and the number of plants in each row is 45.

30. 1188 = 2 × 2 × $\underline{3} \times \underline{3} \times \underline{3}$ × 11

The primes 2 and 11 do not appear in groups of three. So, 1188 is not a perfect cube.

In the factorisation of 1188, the prime 2 appears only two times and the prime 11 appears once. So, if we divide 1188 by $2 \times 2 \times 11 = 44$, then the prime factorisation of the quotient will not contain 2 and 11.

Hence the smallest natural number by which 1188 should be divided to make it a perfect cube is 44.

And the resulting perfect cube is $1188 \div 44 = 27 = 3^3$

31. Price of TV = ₹ 13000

Sales tax charged on it = 12% of ₹ 13000

$= ₹\frac{12}{100} \times 13000$

= ₹ 1560

$\therefore$ Sale price + sales tax

= ₹ 13000 + ₹ 1560

= ₹ 14560

Hence, the amount that Vinod will have to pay if he buys it is ₹ 14560.

OR

M.P. of DVD = ₹ 4500

First discount = 10% of ₹ 4500

$= \frac{10}{100} \times 4500 = ₹450$

Price after first discount = ₹ 4500 - ₹ 450= ₹ 4050

Second discount = 5% of reduced price

$= \frac{5}{100} \times Rs.4050 = \frac{20250}{100} = ₹202.50$

Net selling price of the DVD = ₹ 4050 - ₹ 202.50 = ₹3847.50.

32.
$$\begin{array}{rrr} & p^3 & -1 \\ + & p^3 & +p+2 \\ + & & p^2-2p+1 \\ \hline & 2p^3+p^2-p+2 & \end{array}$$

33. l = 2 m

b = 1 m

h = 1.5 m

Required area

= 2 (l × b + b × h + h × l) – l × b

= 2 (2 × 1 + 1 × 1.5 + 1.5 × 2) m^2 – (2 × 1) m^2

= 13 m^2 – 2 m^2

= 11 m^2

Hence, she covered 11 m^2 of surface area.

34. $(l + m)^2 – (l – m)^2$

= l{(l + m) – (l – m)} {(l + m) + (l – m)} . . . . [Applying Identity III

= (2m) (2l)

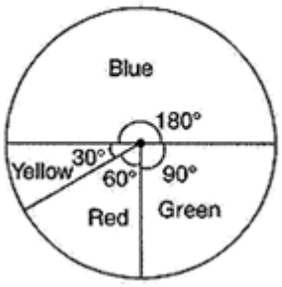
= 4lm

35.

Colours	Number of people	Proportion	Corresponding angle

Blue	18	$\frac{18}{36}=\frac{1}{2}$	$\frac{1}{2}\times 360^\circ=180$
Green	9	$\frac{9}{36}=\frac{1}{4}$	$\frac{1}{4}\times 360^\circ=90$
Red	6	$\frac{6}{36}=\frac{1}{6}$	$\frac{1}{6}\times 360^\circ=60$
Yellow	3	$\frac{3}{36}=\frac{1}{12}$	$\frac{1}{12}\times 360^\circ=30$
Total	36		

Pie chart



36. Let Principal = P

Rate of Interest = R

Amount$_1$ (A_1) = ₹ 17,640

Time Period1 (T_1) = 2 years

$A_1=P\left(1+\frac{R}{100}\right)^{T_1}$

$17,640=P\left(1+\frac{R}{100}\right)^{2}$

Amount$_2$ (A_2) = ₹ 18,522

Time Period$_2$ (T_2) = 3 years

$A_2=P\left(1+\frac{R}{100}\right)^{T_2}$

$18,522=P\left(1+\frac{R}{100}\right)^{3}$

$\frac{A_1}{A_2}=\frac{18,522}{17,640}=\frac{P(1+\frac{R}{100})^3}{P(1+\frac{R}{100})^2}$

$\frac{21}{20}=\frac{(1+\frac{R}{100})^3}{(1+\frac{R}{100})^2}=1+\frac{R}{100}$

$\frac{21}{20}-1=\frac{R}{100}$

$R=\frac{21-20}{20}\times 100=\frac{1}{20}\times 100==5\%$

37. $\left(\frac{1}{2}p^3q^6\right)\left(\frac{-2}{3}p^4q\right)(pq^2)$

$=\frac{1}{2}\times\frac{-2}{3}\times p^3q^6\times p^4q\times pq^2$

$=\frac{-1}{3}\times p^8q^9$

38. We have,

Area of the given figure = Area of ΔEFH + Area of rectangle EDCI + Area of trapezium FHJG + Area of trapezium ICBK + Area of ΔGJA + Area of ΔKBA

Now, Area of $\Delta EFH=\frac{1}{2}\times$ Base $\times$ Height

$=\frac{1}{2}\times 40\times 80$

$=1600\text{m}^2$

Area of rectangle EDCI = Length $\times$ Breadth = 100×160

$=16000\ \text{m}^2$

Area of trapezium, FHJG = $\frac{1}{2}\times[\text{Sum of parallel sides}]\times$ Height

$=\frac{1}{2}\times[40+160]\times 160$

$=\frac{200}{2}\times 160$

$=100\times 160$

= 16000m^2

Area of trapezium, ICBK = $\frac{1}{2} \times$ [Sum of parallel sides] $\times$ Height

$= \frac{1}{2} \times [60 + 100] \times 120$

$= \frac{1}{2} \times 160 \times 120$

$= 80 \times 120$

$= 9600\text{m}^2$

Area of ΔAJG $= \frac{1}{2} \times$ Base $\times$ Height

$= \frac{1}{2} \times 160 \times 100$

= 80 $\times$ 100

= 8000 m^2

Area of $\Delta KBA = \frac{1}{2} \times$ Base $\times$ Height

= $\frac{1}{2} \times 60 \times 60$

= 1800m^2

Therefore, the area of the complete figure = 1600 + 16000 + 16000 + 9600 + 8000 + 1800

= 53000 m^2

OR

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

39. 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)

OR

(5p^2 – 25p + 20) ÷ (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)

40. 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.