Name: **VI**

Number of Questions: 50

Max. Marks: 50

Time: 2 Hours

There is no negative marking in the test.

1. Allen gives Mike 123 millions and after a month, Mike returns him 67,735. How much more money Mike should return him to equal the amount?
   (a) 122 millions + 932 thousands + 265
   (b) 12 lakhs + 93 thousands + 265
   (c) 12 crores + 29 lakhs + 32 thousands + 265
   (d) Both (a) and (c)

2. A figure is formed by putting two squares one on the other as shown below.
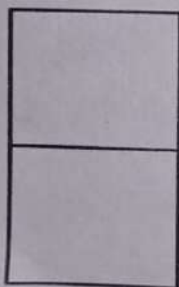
   If the length of each side of the two squares is 8 cm, then the perimeter of the formed figure is
   (a) 56 cm
   (b) 64 cm
   (c) 32 cm
   (d) 48 cm

3. If one-third of y is subtracted from its half find the result.
   (a) $\dfrac{-y}{6}$
   (b) $\dfrac{y}{5}$
   (c) $\dfrac{y}{6}$
   (d) $\dfrac{2y}{6}$

4. Add $\dfrac{2}{5}$ and $\dfrac{3}{7}$.
   (a) $\dfrac{21}{29}$
   (b) $\dfrac{31}{37}$
   (c) $\dfrac{29}{35}$
   (d) $\dfrac{29}{37}$

5. If x, y and z are three numbers such that L.C.M. (x, y) = y and L.C.M. (y, z) = z, then the L.C.M. of x, y, z is

(a) x (b) y

(c) z (d) $\dfrac{x+y+z}{3}$

6. Find the wrong letter in the below given series.

X S N I C Y

(a) Y (b) C

(c) S (d) I

7. Riya spent ₹34.60 on purchasing a basket. How much money is left if she had ₹100?

(a) ₹65.40 (b) ₹10.50

(c) ₹65.10 (d) ₹50.75

8. Find the area of the shaded portion in the figure.

(a) 12 cm² (b) 20 cm²

(c) 36 cm² (d) 48 cm²

9. Flights to Mumbai leave every 5 hours. At the information counter I learnt that the flight took off 25 min before. If the time now is 10 : 45 a.m, what is the time for the next flight?

(a) 4 : 10 a.m. (b) 2 : 20 a.m.

(c) 4 : 20 p.m. (d) 3 : 20 p.m.

10. Read the following statements carefully and choose the correct option.

(i) Ratios 2:4 and 12:24 are equivalent ratios.

(ii) A team won 6 games out of 10. The ratio of the games won to the games lost is 3:2.

(a) Only (i) is true.

(b) Only (ii) is true.

(c) Both (i) and (ii) are true.

(d) Neither (i) nor (ii) is true.

11. The perimeter of a square and an equilateral triangle are same. If the side of an equilateral triangle is 8 cm, what is the area of the square?

(a) 16 sq. cm (b) 8 sq. cm

(c) 24 sq. cm (d) 36 sq. cm

12. If $\frac{3}{5}$ of the property costs ₹15,000 what is the cost of $\frac{1}{2}$ of it?
    - (a) ₹7500
    - (b) ₹12500
    - (c) ₹25000
    - (d) ₹10000

13. Which shape has only one line of symmetry?

    (a)   (b)

    (c)   (d)
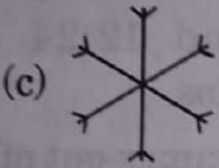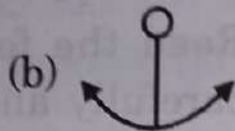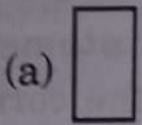
14. Five square flower beds each of size 2 m dug on a piece of land 15 m long and 10 m wide. Find the area of the remaining part of land.
    - (a) 170 sq.m
    - (b) 210 sq.m
    - (c) 230 sq.m
    - (d) 130 sq.m

15. Rani had ₹48.50. She bought an ice cream for ₹20.50 and a chocolate for ₹10.50. Find the amount left with her.
    - (a) ₹20.75
    - (b) ₹10.25
    - (c) ₹17.50
    - (d) ₹23.25

16. Divide ₹600 among Rehana and Rashmi in the ratio of 2 : 3.
    - (a) ₹220, ₹380
    - (b) ₹240, ₹360
    - (c) ₹120, ₹480
    - (d) ₹150, ₹450

17. Nandini's house is $\frac{9}{10}$ km from her school. She walked some distance and then took a bus for $\frac{1}{2}$ km to reach the school. She walked for:
    - (a) $\frac{2}{5}$ km
    - (b) $\frac{1}{7}$ km
    - (c) $\frac{7}{8}$ km
    - (d) $\frac{4}{5}$ km

18. Convert $\frac{3}{12}$ into a decimal fraction.
    - (a) 3.12
    - (b) 0.75
    - (c) 0.25
    - (d) 1.25

19. Read the following statements carefully and choose the correct option.

    (i) Distance travelled by car A at the speed of 52 km/hr in 3 hours is 156 km/hr.

    (ii) Distance travelled by car B at the speed of 58 km/hr in 3 hours is 174 km/hr.

(a) Only (i) is true

(b) Only (ii) is true

(c) Both (i) and (ii) are true

(d) Neither (i) nor (ii) is true

20. In the given figure AB = BC and AD = BD = DC.

The number of isosceles triangles in the figure is
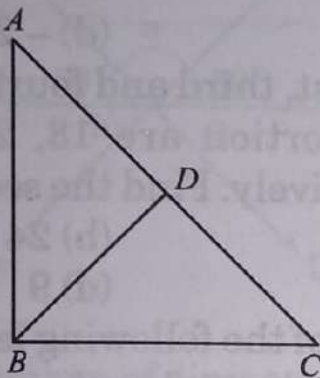
(a) 1   (b) 2

(c) 3   (d) 4

21. The measure of an angle is $\frac{4}{5}$ times its supplement. Find the angle.

(a) 100°   (b) 80°

(c) 110°   (d) 70°

22. Mother wants to divide ₹56 among her daughters Parul and Priyam in the ratio of their ages. If Parul is 9 years old and Priyam is 15 years old, find the amount each one of these get.

(a) ₹25, ₹31   (b) ₹21, ₹35

(c) ₹16, ₹40   (d) ₹20, ₹36

23. Which of the following statements is/are correct?

(1) The diagonals of a rectangle are perpendicular.

(2) The diagonals of a rhombus are equal.

(3) Every square is a rhombus.

(4) None of these

(a) only 1   (b) only 3

(c) 1 and 2   (d) all 1, 2, and 3

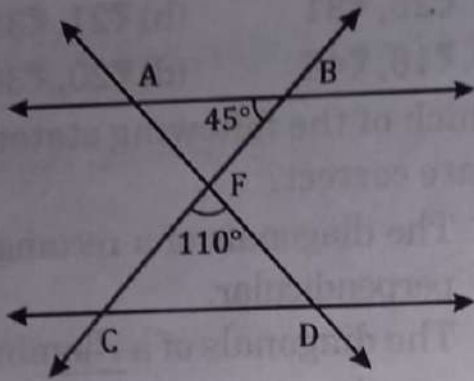24. A and B are two positive integers such that AB = 64. Which of the following is not the correct value of A + B?

(a) 65   (b) 16

(c) 35   (d) 20

25. 10 – x means

(a) 10 is subtracted x times

(b) x is subtracted 10 times

(c) x is subtracted from 10

(d) 10 is subtracted from x

26. In the given figure, line AB ∥ line CD, m∠ABF = 45° and m∠CFD = 110° then find m ∠FDC

M-22

(a) 45° (b) 25°
(c) 35° (d) 30°

27. Samson travelled 16.52 km by bus, 31.46 km by auto rickshaw and walked 1.45 km. Find the total distance covered by him.
(a) 49.430 km (b) 39.430 km
(c) 47.430 km (d) 54.760 km

28. A taxi driver filled his car petrol tank with 40 litres of petrol on Monday. The next day, he filled the tank with 50 litres of petrol. If the petrol costs ₹44 per litre, how much did he spend in all on petrol?
(a) ₹4240 (b) ₹3960
(c) ₹2620 (d) ₹5130

29. The cost of 500 kg of wheat is ₹1756. Find the cost of 125 kg of such wheat?
(a) ₹439 (b) ₹450
(c) ₹480 (d) All of these

30. A box of medicine contains 2,00,000 tablets each weighing 20 mg. What is the total weight of all the tablets in the box in gram and in kilogram?
(a) 2 kg (b) 2.5 kg
(c) 3.5 kg (d) 4 kg

31. Find the value of $(-30) + (-20) + (-63) + (+75) + (65)$.
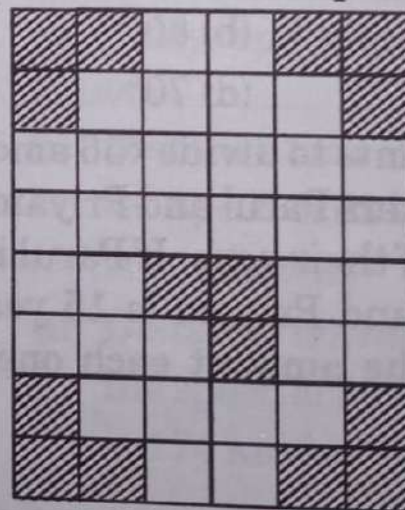(a) 21 (b) 27
(c) 25 (d) − 27

32. The first, third and fourth terms of a proportion are 18, 27 and 36 respectively. Find the second term.
(a) 72 (b) 24
(c) 54 (d) 9

33. Which of the following letters have both horizontal and vertical lines of symmetry?
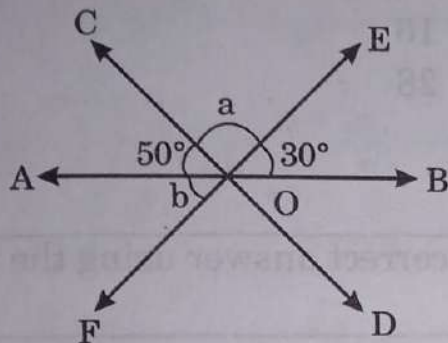(a) X (b) E
(c) M (d) K

34. Find the ratio of the shaded portion to the unshaded portion in figure.

(a) 5 : 11   (b) 20 : 7

(c) 15 : 11   (d) 15 : 40

35. Find the value of $\angle a - \angle b$ in the adjoining figure.

(a) 50°   (b) 70°

(c) 10°   (d) 60°

36. The number of times an observation is repeated in a data is called _____.

(a) Frequency
(b) Sample
(c) Pie chart
(d) None of these

37. Two buses travel to a place at 45 km/hr and 60 km/hr respectively. If the second bus takes $5\frac{1}{2}$ hrs less than the first for the journey, the length of the journey is

(a) 900 km   (b) 945 km

(c) 990 km   (d) 1350km

DIRECTIONS (Qs. 38 to 40) : Read the passage(s) given below and answer the questions that follow.

Passage

Following is the arrangement of various rooms in a house.
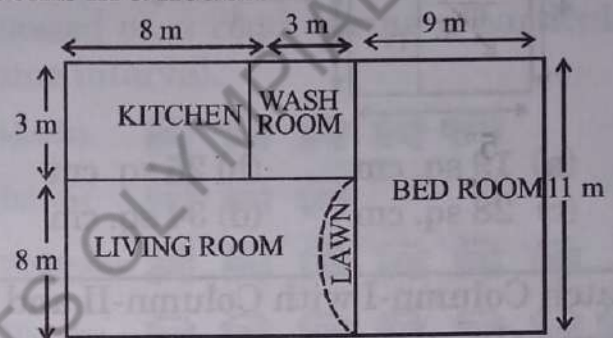
Answer the following questions.

38. Perimeter of floor of wash room is
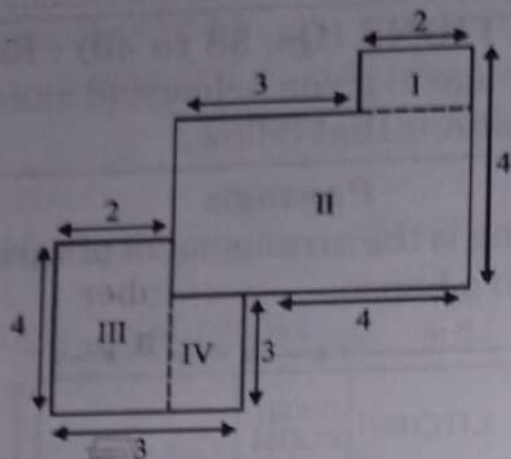
(a) 4 m   (b) 3 m

(c) 12 m   (d) 7 m

39. Area of bed room is

(a) 20 m^2 (b) 99 m^2

(c) 88 m^2 (d) 72 m^2

40. If Mr. Verma wants to construct a lawn from the portion of living room then the perimeter of lawn is

(a) 12 m   (b) 5 m

(c) 12.5 m   (d) 5.12 m

41. Find L.C.M of 40, 48 and 45.

(a) 560   (b) 720

(c) 920   (d) 1000

42. By splitting the following figure into rectangles, find the area (units given are in cm).

(a) 19 sq. cm   (b) 25 sq. cm
(c) 28 sq. cm   (d) 34 sq. cm
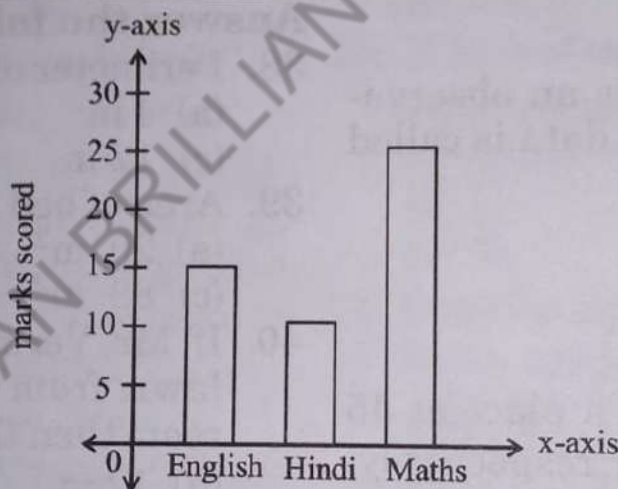
43. Fill up _____ with appropriate numeral.

$$\frac{3}{4} = \frac{21}{\square}$$

(a) 48
(b) 20
(c) 16
(d) 28

Match Column-I with Column-II and select the correct answer using the codes given below the columns.

44.   **Column-I**   **Column-II**

A. The horizontal line in the graph is called   (i)   Maths
B. The vertical line in the graph is called   (ii)   Hindi
C. Highest marks are scored in the subject   (iii)   x-axis
D. Least marks scored in the subject   (iv)   y-axis

(a) A → (iv); B → (iii); C → (ii); D → (i)   (b)   A → (iv); B → (iii); C → (i); D → (ii)
(c) A → (iii); B → (iv); C → (ii); D → (i)   (d)   A → (iii); B → (iv); C → (i); D → (ii)

45. In the adjoining figure, line P ∥ line Q and line M and N are transversals. As per information in figure, find $m\angle a + m\angle b$.
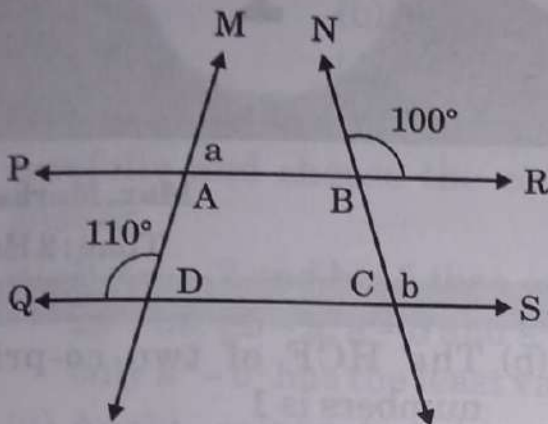
(a) 225°   (b) 90°

(c) 180°   (d) 170°

46. An electric pole casts a shadow of length 20 m at a time when a tree 6 m high casts a shadow of length 8 metre. Find the height of the pole.

(a) 28 m   (b) 21 m

(c) 18 m   (d) 15 m

47. A bus travels 120 km in 3 hrs How long will it take to travel 360 km ?

(a) 11 hrs   (b) 6 hrs

(c) 9 hrs   (d) 8 hrs

DIRECTIONS (Qs. 48-50) : Read the passage(s) given below and answer the questions that follow.

Let us see what information do we get from the given pictograph made by Mr. Rai to show the number of cars passed on a road during a particular time interval.

1figure of car = 100 cars

48. How many cars passed through the road on Monday?

(a) 200   (b) 500

(c) 700   (d) 900

49. On which day maximum number of cars were passed?

(a) Monday   (b) Tuesday

(c) Wednesday   (d) Thursday

50. How many more cars passed on Monday in comparison with the number of cars passed on Tuesday?

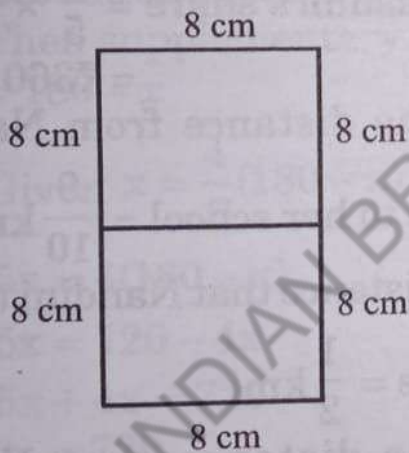(a) 100   (b) 150

(c) 200   (d) 300

MOCK TEST-3

ANSWERS KEY

1	(d)	11	(d)	21	(b)	31	(b)	41	(b)
2	(d)	12	(b)	22	(b)	32	(b)	42	(c)
3	(c)	13	(b)	23	(b)	33	(a)	43	(d)
4	(c)	14	(d)	24	(c)	34	(a)	44	(d)
5	(c)	15	(c)	25	(c)	35	(b)	45	(d)
6	(b)	16	(b)	26	(b)	36	(a)	46	(d)
7	(a)	17	(a)	27	(a)	37	(c)	47	(c)
8	(a)	18	(c)	28	(b)	38	(c)	48	(b)
9	(d)	19	(c)	29	(a)	39	(b)	49	(d)
10	(c)	20	(c)	30	(d)	40	(c)	50	(c)

1. (d) 123 millions − 67,735
    = 122 millions + 932 thousands
    + 265
    = 12 crores + 29 lakhs + 32
    thousands + 265.

2. (d)

    ∴ Perimeter of the figure formed
    = 8 + 8 + 8 + 8 + 8 + 8 = 48 cm.

3. (c) Required result $= \dfrac{1}{2}y - \dfrac{1}{3}y$

    $= \dfrac{1}{6}y$

4. (c) $\dfrac{2}{5} = \dfrac{2 \times 7}{5 \times 7} = \dfrac{14}{35}$

    $\dfrac{3}{7} = \dfrac{3 \times 5}{7 \times 5} = \dfrac{15}{35}$

    $\therefore \dfrac{2}{5} + \dfrac{3}{7} = \dfrac{14}{35} + \dfrac{15}{35} = \dfrac{14+15}{35} = \dfrac{29}{35}.$

5. (c) L.C.M. $(x, y, z) = z.$

6. (b) The pattern in the series is −5
    i. e.

    X   S   N   I   D   Y
      −5 −5 −5 −5 −5

    D should be in place of C.

7. (a) Riya spent = ₹34.60
    Money left with her
    = ₹100.00
    − ₹34.60
    ₹65.40

8. (a) Area of shaded portion
    $= l \times b$
    $= 6 \times 2 = 12 \text{ cm}^2$

9. (d) Time for the next flight
    = 10 : 45 − 00.25 + 5 : 00
    = 15 : 20 hours
    = 15 : 20 − 12:00 = 3 : 20 pm.
    Earlier flight took off at 10.45
    − 25 minutes = 3 : 20 pm.

10. **(c) (i) :** Ratio $2 : 4 = \dfrac{2}{4} = \dfrac{1}{2} = 1 : 2$

Ratio $12 : 24 = \dfrac{12}{24} = 1 : 2$

(ii) : Number of games won = 6
Number of games loose = 4

Ratio = 6 : 4 = 3 : 2

11. **(d)** Perimeter of equilateral triangle
= 3 × side
= 3 × 8 = 24 cm
∴ Perimeter of square = 24 cm

Side of square = $\dfrac{\text{Perimeter}}{4}$

$= \dfrac{24}{4} = 6$ cm

∴ The area of square = (Side)²
= 6 × 6 = 36 cm²

12. **(b)** Let cost of property by ₹x

then $\dfrac{3}{5} \times x = 15000$

$x = 15000 \times \dfrac{5}{3} = 25000$

Cost of $\dfrac{1}{2}$ of property

$= \dfrac{1}{2} \times 25000 = ₹12500$

13. **(b)**

14. **(d)** Length of land = 15 m
Breadth of land = 10 m
Area of the land
= Length × Breadth
= (150 × 10) sq. m = 150 sq. m
Area of 1 square flower bed
= side × side
= (2 × 2) sq. m = 4 sq. m
Area of 5 square flower bed 20
sq. m

= (5 × 4) sq. m
Area of the remaining part of land
= Area of land – Area of 5 square flower beds
= 150 sq. m – 20 sq. m = 130 sq. m

15. **(c)** Cost of ice cream = ₹20.50
Cost of chocolate = ₹10.50
Total cost = ₹20.50 + ₹10.50
= ₹31
Total money Rani had = ₹48.50
Money spent = ₹31
Money left = ₹48.50 – ₹31
= ₹17.50
Thus, ₹17.50 is left with her.

16. **(b)** Rehana : Rashmi = 2 : 3

Rehana's share = $\dfrac{2}{5} \times ₹600$

= ₹240

Rashmi's share = $\dfrac{3}{5} \times ₹600$

= ₹360

17. **(a)** The distance from Nandini's

house to her school = $\dfrac{9}{10}$ km

The distance that Nandini traveled

by bus = $\dfrac{1}{2}$ km

∴ The distance that Nandini

walked far = $\dfrac{9}{10} - \dfrac{1}{2}$

$= \dfrac{9}{10} - \dfrac{1 \times 5}{2 \times 5}$

$= \dfrac{9}{10} - \dfrac{5}{10}$

$= \dfrac{9 - 5}{10} = \dfrac{4}{10}$

$= \dfrac{2}{5}$ km

Hence, the required distance that Nandini walked is $\dfrac{2}{5}$ km.

18. (c)

```
      0.25
  12) 3.00
      0
      ─────
      3 0
      2 4
      ─────
        6 0
        6 0
      ─────
         ×
```

Thus, $\dfrac{3}{12} = 0.25$

19. (c) (i) : Distance = Speed × Time
$= 52 \times 3 = 156$ km
(ii) : Distance = Speed × Time
$= 58 \times 3 = 174$ km

20. (c) 3

21. (b) Let the angle be x.
Then supplementary angle
$= 180 - x$

Given $x = \dfrac{4}{5}(180 - x)$

$5x = 4(180 - x)$

$5x = 720 - 4x$

$5x + 4x = 720$

$9x = 720$

$x = \dfrac{720}{9} = 80°$

22. (b) Ratio of Parul's age to Priyam's age $= 9 : 15$

$= \dfrac{9}{15} = \dfrac{3}{5} = 3 : 5$

So, mother will divide ₹56 in the ratio of 3 : 5

Parul will get $= ₹\dfrac{3}{8} \times 56 = ₹21$

(as 3 + 5 = 8)

Priyam will get $= ₹56 - ₹21$
$= ₹35$

23. (b) Only (3) is correct. Every square is a rhombus but it is not necessary that every rhombus will be a square.

24. (c) Possible combinations of (A, B) such that AB = 64 are
(1, 64), (2, 32), (4, 16) and (8, 8)
∴ A + B cannot be 35.

25. (c) x is subtracted from 10.

26. (b) Since AB || CD
$\angle FCD = \angle ABF = 45°$
[alternate angles]
In ∆FCD,
$\angle FCD + \angle CDF + \angle CFD$
$= 180°$
[Angle sum property]
$45° + \angle FDC + 110° = 180°$
$\angle FDC + 155° = 180°$
$\angle FDC = 180° - 155° = 25°$

27. (a) Distance travelled by bus
$= 16.520$ km
Distance travelled by auto
$= 31.460$ km
Distance walked $= 1.450$ km
Total distance
$= 16.520$ km $+ 31.460$ km
$+ 1.450$ km

$= 49.430$ km
So, Samson covered 49.430 km in total.

28. (b) Petrol filled on Monday
$= 40$ litres
Petrol filled the next day $= 50$ litres
∴ Total petrol filled on the two days
$= 40$ litres $+ 50$ litres $= 90$ litres
∴ Cost of petrol per litre $= ₹44$

∴ Cost of 90 litres petrol
= ₹44 × 90
= ₹3960

29. (a) The cost of 1 kg of wheat

$$= \frac{1756}{500} = ₹3.512.$$

Hence, the cost of 125 kg of wheat
= 125 × 3.512 = ₹439

30. (d) Weight of tablets = 2,00,000
Weight of 1 tablet = 20 mg
Weight of 2,00,000 tablets
= 2,00,000 × 20 mg
= 40,00,000 mg
Weight in gm

$$= \frac{40,00,000}{1000} gm = 4000 \ gm$$

Weight in kg $= \frac{4000}{1000} kg = 4 \ kg$

31. (b) Group the positive and the negative integers together,
(−30) + (−20) + (−63) + (+75) + (65)
= (−113) + (140)
= (140 − 113) = 27

32. (b) Let the second term of the proportion be x then
18 : x : : 27 : 36
18 × 36 = x × 27
(Product of extremes = Product of mean)

$$\frac{18 \times 36}{27} = x$$

24 = x

Thus, second term of the proportion is 24.

33. (a) X has both horizontal and vertical lines of symmetry.

34. (a) Number of squares in the shaded portion = 15
Number of squares in the unshaded portion = 33
So, the ratio of the shaded portion to the unshaded portion
= 15 : 33

$$= \frac{15}{33} = \frac{5 \times 3}{11 \times 3} = \frac{5}{11} = 5 : 11$$

35. (b) Since AB is a straight line,
∠AOC + ∠COE + ∠EOB = 180°
50° + a + 30° = 180°
a + 80° = 180°
a = 100°
b = ∠EOB [vert.opp. angles]
= 30°
∠a − ∠b = 100° − 30°
= 70°

36. (a)

37. (c) Let the length of the journey be x km.
Then,

$$\frac{x}{45} - \frac{x}{60} = \frac{11}{2}$$

$$\Rightarrow \frac{4x - 3x}{180} = \frac{11}{2}$$

$$\Rightarrow \frac{x}{180} = \frac{11}{2}$$

$$\Rightarrow x = \frac{11 \times 180}{2} = 990 \ km.$$

38. (c) Wash room is in the form of a square.
∴ Perimeter = 4 × 3 = 12 m

39. (b) Bed room is in form of a rectangle.
∴ Area = 9 × 11 = 99 m².

40. (c) Lawn is in the form of a semicircle.

Perimeter of lawn
= circumference of semicircle

$$= \frac{2\pi r}{2} = \pi r = \frac{22}{7} \times 4 = \frac{88}{7}$$

= 12.5 m

41. (b)

2	40
2	20
2	10
5	5
	1

2	48
2	24
2	12
2	6
3	3
	1

3	45
3	15
5	5
	1

$40 = 2 \times 2 \times 2 \times 5$
$48 = 2 \times 2 \times 2 \times 2 \times 3$
$45 = 3 \times 3 \times 5$
L.C.M. of (40, 48, 45)
    $= 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5$
    = 720.

42. (c) Area of rectangle I
    $= (2 \times 1)$ sq. cm
Length of rectangle II
    $= (4 + 1)$ cm = 5 cm
Breadth of rectangle II = 3 cm
Therefore, area of rectangle II
    $= 5 \times 3$ sq. cm
    = 15 sq. cm
Area of rectangle III
    $= (4 \times 2)$ sq. cm
    = 8 sq. cm
Area of rectangle IV
    $= (3 \times 1)$ sq. cm
    = 3 sq. cm
Thus, area of given figure
= Area I + Area II + Area III
                + Area IV

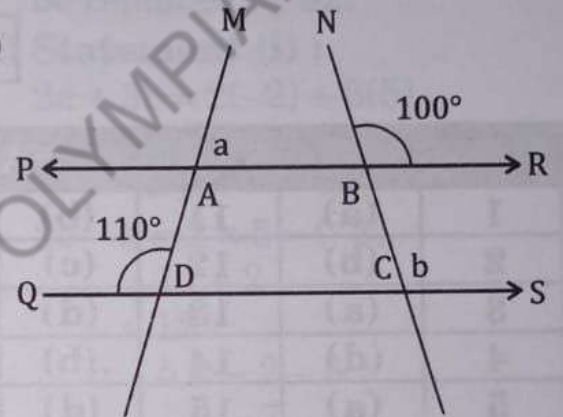= 2 + 15 + 8 + 3 sq. cm
= 28 sq. cm.

43. (d) Since $21 \div 3 = 7$, so multiply numerator and denominator of

$\frac{3}{4}$ by 7.

$$\frac{3}{4} = \frac{3 \times 7}{4 \times 7} = \frac{21}{28}$$

Therefore, the required number is 28.

44. (d) A→(iii); B→(iv); C→ (i); D → (ii)

45. (d)

Since PR ∥ QS
∠MAB = ∠ADC
            (Corresponding angles)
∠ADQ + ∠ADC = 180° (Linear pair)
∠ADC = 180° − 110° = 70°
∴ ∠MAB = ∠ADC = 70°
    ∠a = 70°
∠ABC = ∠NBR = 100°
        (Vertically opposite angles)
Since PR ∥ QS,
    ∠BCS = ∠ABC (Alternate angles)
        ∠b = 100°
$m\angle a + m\angle b = 70° + 100° = 170°$

46. (d) Height of electric pole : length of its shadow
    : : Height of tree : length of its shadow

$x : 20 :: 6 : 8$

$x \times 8 = 20 \times 6$

$x = \dfrac{20 \times 6}{8} = 15$ m

Thus, height of the electric pole is 15 m.

47. **(c)** Time taken to travel 120 km
= 3hrs

Time taken to travel 1 km

$= \dfrac{3}{120}$ hrs.

Time taken to travel 360 km

$= \dfrac{3}{120} \times 360$ hrs

$= 3 \times 3$ hrs $= 9$ hrs

48. **(b)** $100 \times 5 = 500$ cars

49. **(d)** Thursday

50. **(c)** 200 cars