

CBSE Board
Class VI Mathematics
Term II
Sample Paper 1 – Solution

Time: 2 ½ hours

Total Marks: 80

Section A

1. Correct answer: A
 $1.35 = \frac{135}{100} = \frac{27 \times 5}{20 \times 5} = \frac{27}{20}$
2. Correct answer: A
Data collected from a group of 40 students is an example of primary data.
3. Correct answer: D
Maximum marks = 47, Minimum marks = 21
Difference = Maximum – Minimum = 47 – 21 = 26
4. Correct answer: D
Perimeter of a square = 4 × length of a side
5. Correct answer: A
Area of a square = side × side = p × p = p²
6. Correct answer: B
15 : 19 is not equivalent to 50 : 90.
7. Correct answer: C
An isosceles triangle has exactly one line of symmetry.
8. Correct answer: A
Protractor is used to draw and measure angles.
9. Correct answer: C
Out of the four the one-tenth part of 0.7 is the greatest. Hence, 0.7 has the highest value.
10. Correct answer: B
 $\frac{n}{5} - 8$ is the correct expression.
11. Correct answer: A
Letter H has a horizontal line of symmetry.

12. Correct answer: B

$$\text{|||||} = 5 + 5 + 5 + 5 + 5 + 3 = 28$$

Section B

13. Cost of a book = Rs. 165.35

Cost of a pen = Rs. 72.00

Cost of a notebook = Rs. 14.85

Total Cost is given by,

Rs 165.35

Rs 72.00

Rs 14.85

Rs 252.20

Total money to be paid by Preeta = Rs. 252.20

14. (a) Secondary

(b) Primary

15. We know that a regular pentagon has 5 sides, so we can divide the perimeter by 5 to get the measure of one side.

$$\text{One side of pentagon} = 25 \text{ cm} \div 5 \text{ cm} = 5 \text{ cm}$$

16. Let the number of rows be 'n'.

Since there are 11 students in a row and number of rows are n, the Rule is given as,

$$\text{Number of students in the parade} = 11n.$$

17. Three symmetrical objects are

(i) An electric tube-light

(ii) A water glass

(iii) A fan

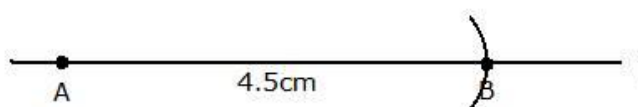
18. Steps of construction:

(1) Draw a line l. Mark a point A on a line l.

(2) Place the compass' pointer on the 0 mark of the ruler. Open it to place the pencil point up to the 4.5 cm mark.

(3) Taking caution that the opening of the compass has not changed, place the pointer on A and swing an arc to cut l at B.

(4) \overline{AB} is a line segment of required length.



19. Ratio of 30 cm to 4 m

$$= 30 : 4 \times 100 \text{ (1 m = 100 cm)}$$

$$= 30 : 400$$

$$= 3 : 40$$

Ratio of 20 sec to 6 minutes

$$= 20 : 6 \times 60 \text{ (1 min = 60 sec)}$$

$$= 20 : 360$$

$$= 1 : 18$$

Since,

$$3 : 40 \neq 1 : 18 ,$$

Therefore the given ratio do not form a proportion.

20. To get this answer subtract 27.84 from 84.5

$$84.50$$

$$-27.84$$

$$\hline 56.66$$

Hence, 56.66 must be subtracted from 84.5 to get 27.84

21. The shaded portion is made up of line segments. It is covered by full and half squares. We have to calculate the number of fully filled and half filled squares.

$$\Rightarrow \text{Fully filled squares} = 6$$

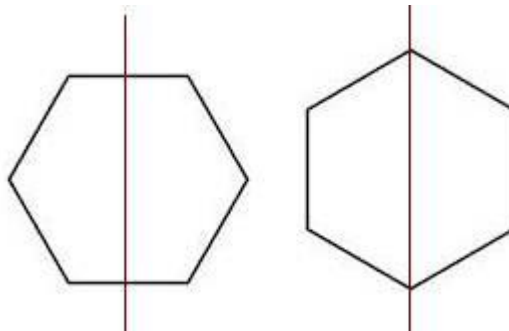
$$\Rightarrow \text{Half-filled squares} = 2$$

$$\text{Area covered by fully filled square} = 6 \times 1 = 6 \text{ sq. units.}$$

$$\text{Area covered by half-filled square} = 2 \times \frac{1}{2} = 1$$

$$\text{Therefore, total area} = 6 + 1 = 7 \text{ sq. units}$$

22. Drawing the relational part the images become as follows:



23. (a) Butterscotch is liked by $5 + 5 + 2 = 12$ students.

(b) Chocolate flavor is less favourite.

24. Let the isosceles triangle be ABC, in which $AB = AC = 18$ cm.

Also perimeter is given 50 cm, we need to find BC.

Perimeter of triangle = 50 cm

$$AB + AC + BC = 50 \text{ cm}$$

$$\Rightarrow 18 + 18 + x = 50 \text{ cm}$$

$$\Rightarrow 36 + x = 50 \text{ cm}$$

$$\Rightarrow x = 50 - 36 = 14 \text{ cm}$$

Therefore, length of third side is 14 cm.

Section C

25. Let the marks of Rohit, Ajay and Vipul be $4x$, $5x$ and $6x$ respectively.

Given that Ajay's marks = 75

$$\Rightarrow 5x = 75$$

$$\Rightarrow x = \frac{75}{5} = 15$$

Hence, marks of Rohit = $4x = 4 \times 15 = 60$ marks

Marks of Vipul = $6x = 6 \times 15 = 90$ marks

26.

(a) Economics has the most students enrolled.

(b) From lowest to highest: Physics, Chemistry, Psychology, Political Science, Economics.

(c) From ratio of the number of students enrolled in Economics to the number enrolled in Chemistry we can state that enrollment in Economics is 2 times larger than in Chemistry.

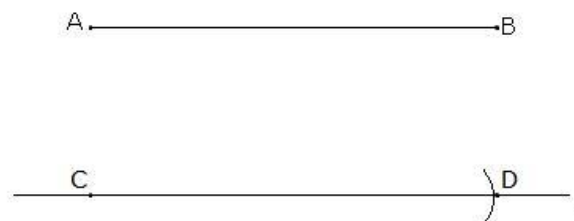
27. Steps of construction:

(1) Given \overline{AB} whose length is not known.

(2) Fix the compasses pointer on A and the pencil end on B. The opening of the instrument now gives the length of \overline{AB} .

(3) Draw any line l . Choose a point C on l . Without changing the compasses setting, place the pointer on C.

(4) Swing an arc that cuts l at a point, say D. Now \overline{CD} is a copy of \overline{AB} .



28. From the figure the smaller rectangles are equal.

Therefore,

Area of one smaller rectangle = length \times breadth = $3 \times 4 = 12$ sq. m

Area of 3 smaller rectangles = $3 \times 12 = 36$ sq. m

Area of bigger rectangle = length \times breadth = $10 \times 8 = 80$ sq. m

Therefore, area of remaining part = $80 - 36 = 44$ sq. m

29. Rate percent per annum is interest given on Rs. 100 for a year.

Let the interest for Rs. 100 per annum be Rs. x.

Principal : Principal :: Interest : Interest

5250 : 100 :: 420 : x

Product of extreme terms = $5250x$

Product of the middle terms = $100 \times 420 = 42000$

$5250x = 100 \times 420$

$$\Rightarrow x = \frac{42000}{5250} = 8$$

- 30.

- (a) In this case time is unknown and distance is known. Therefore, we proceed as follows:

6 hours = 6×60 minutes = 360 minutes

300 km is covered in 360 minutes

Time required to cover 1 km distance = $\frac{360}{300} = \frac{6}{5}$ min

Therefore, 280 km can be covered in $\frac{6}{5} \times 280 = 336$ minutes = 5 hours 36 minutes

- (b) In this case distance is unknown and time is known. Therefore, we proceed as follows:

Distance covered in 6 hours = 300 km

Distance covered in 1 hour = $\frac{300}{6} = 50$ km

Therefore, distance covered in 10 hours = $50 \times 10 = 500$ km.

31. Area of a square wall = side \times side = $10 \times 10 = 100$ sq. m

Area of four square walls = $4 \times 100 = 400$ sq. m

Cost of painting 1 sq. m of wall = Rs. 20

Therefore, total cost of painting = $\text{Rs. } 20 \times 400 = \text{Rs. } 8000$

32. (a) In 2009-April, May and in 2010-May, June.

(b) In 2009-May and in 2010-May.

(c) In 2009-June and in 2010-March and May

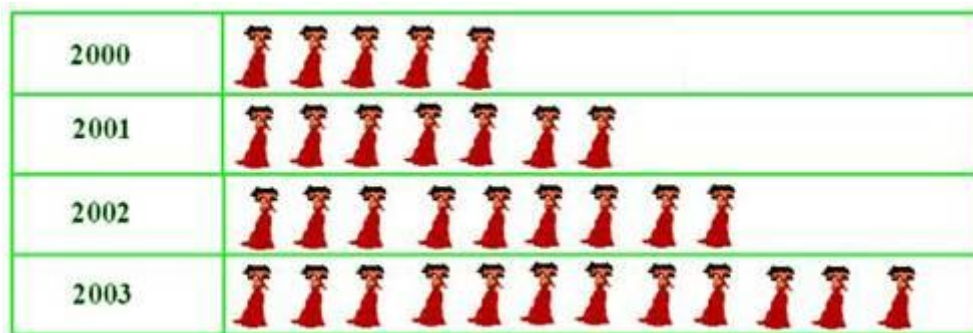
Section D

33. Here, we scale



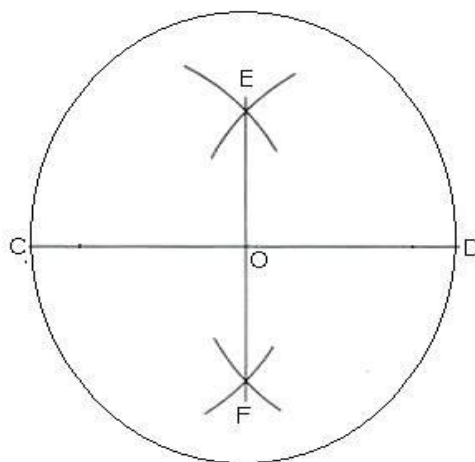
= 1000 women

The pictograph is:

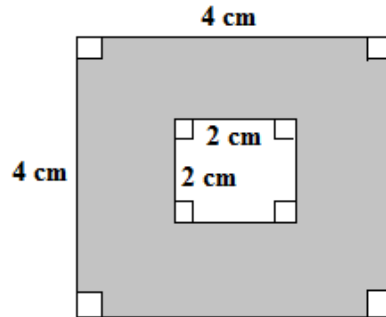


34. Steps of construction:

1. Draw a circle with centre O and any radius. Join a diameter CD.
2. Taking C as a centre and radius more than half of length CD, draw two arcs in upper and lower portion of CD.
3. Taking D as a centre and same radius, draw two arcs which cut the previous arcs at E and F.
4. It is observed that the perpendicular bisector EF passes through centre O.



35. Area(outer square) = $4 \text{ cm} \times 4 \text{ cm} = 16 \text{ cm}^2$
 Area(inner square) = $2 \text{ cm} \times 2 \text{ cm} = 4 \text{ cm}^2$
 Area(shaded portion) = Area(outer square) - Area(inner square) = $16 - 4 = 12 \text{ cm}^2$



36. Weight of potatoes = $13\text{kg } 750\text{g} = 13.750 \text{ kg}$
 Weight of tomatoes = $8\text{kg } 80\text{g} = 8.080 \text{ kg}$
 Total weight of vegetables:
 13.750 kg
 $+ 8.080 \text{ kg}$

 21.830 kg
 Total weight of bag and vegetables = 22.200 kg
 Total weight of vegetables in it = 21.830 kg
 Weight of empty bag:
 22.200 kg
 $- 21.830 \text{ kg}$

 0.370 kg
 Hence, weight of empty bag = $0.370 \text{ kg} = 370 \text{ g}$

37. $3(x + 3) - 2(x - 1) = 5(x - 5)$
 $\Rightarrow 3x + 3 - 2x + 2 = 5x - 25$ [removing parentheses]
 $\Rightarrow x + 11 = 5x - 25$
 $\Rightarrow x - 5x = -25 - 11$
 [Transposing the terms with variables on one side and constants on another]
 $\Rightarrow -4x = -36$ [dividing by 4 on both sides]
 $\Rightarrow x = 9$