

**CBSE Board**  
**Class VI Mathematics**  
**Term II**  
**Sample Paper 2 – Solution**

Time: 2 ½ hours

Total Marks: 80

---

**Section A**

1. Correct answer: D  
Decimal number represented by point A on the number line is 1.9
2. Correct answer: D  
Number of students who like hockey = 14  
Number of students who like football = 13  
Difference =  $14 - 13 = 1$
3. Correct answer: C  
Perimeter of a square =  $4 \times \text{side}$   
 $70 = 4 \times \text{side}$   
Side =  $\frac{70}{4} = 17.5 \text{ m}$
4. Correct answer: B  
Cost of n such books will be  $10n$ .
5. Correct answer: B  
 $3 : 4 :: x : 8$   
 $\frac{3}{4} = \frac{x}{8}$   
Gives,  $4x = 24 \Rightarrow x = 6$
6. Correct answer: A  
A rectangle has two lines of symmetry.
7. Correct answer: A  
Cost of k chocolates =  $6k$   
Then, cost of 5 chocolates =  $6 \times 5 = \text{Rs. } 30$

8. Correct answer: A

The given number 8.6 can be written as

$$\begin{aligned} 8.6 &= \frac{86}{10} = \frac{80+6}{10} \\ &= \frac{80}{10} + \frac{6}{10} \\ &= 8 + \frac{6}{10} \\ &= 8\frac{6}{10} \end{aligned}$$

9. Correct answer: B

Value at  $y = 1$  is  $4(1) + 12 = 16$

10. Correct answer: A

Alphabet H has 2 lines of symmetry

11. Correct answer: B

9 multiplied to k and then 1 is added.

12. Correct answer: B

$0.1254 < 0.1257 < 0.1258 < 0.1259$

## Section B

13. Weight of an empty cylinder = 18.075 kg

Weight of the gas filled in it = 12.350 kg

Total weight =

18.075kg

12.350kg

30.425kg

Hence, the total weight of the cylinder filled with gas = 30.425 kg = 30 kg 425 g

14. This data can be represented in a tabular form as shown below:

Standard VI	Girls	Boys	Total
Div A	10	12	22
Div. B	6	20	26
Div. C	18	12	30
Div. D	16	24	40
Total	50	68	118

15. Let the length of the fourth side be  $x$  cm.

$$\text{Perimeter} = 130 \text{ cm}$$

$$30 + 40 + 25 + x = 130 \text{ cm}$$

$$95 + x = 130 \text{ cm}$$

$$x = 130 - 95$$

$$x = 35 \text{ cm}$$

Therefore, length of the fourth side is 35 cm.

16. Number of ball in smaller boxes =  $x$

$$\begin{aligned}\text{Number of balls in the larger box} &= 2 \times \text{number of balls in small Box} + \text{balls left over} \\ &= 2x + 10\end{aligned}$$

17. Point A represents 0.8

Point B represents 1.3

Point C represents 2.2

Point D represents 2.9

18. Length of rectangular field = 20 m

Breadth of the rectangular field = 15 m

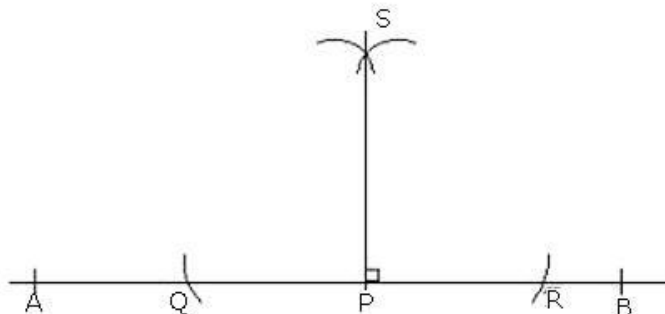
The ratio of the breadth to the length is 15 : 20

$$\text{Now, } 15:20 = \frac{15}{20} = \frac{15 \div 5}{20 \div 5} = \frac{3}{4} = 3:4$$

Thus, the required ratio is 3 : 4.

19. Steps of construction:

1. Draw a line segment AB of any length and mark a point P on it.
2. Taking P as centre and any radius draw two arcs one on left side of P and other on right side of P, which cut AB at Q and R.
3. Taking Q and R as a centre draw two arcs and let them intersect at S.
4. Join PS.
5. PS is the required perpendicular of AB.



20. Subtract 74.5 from 91

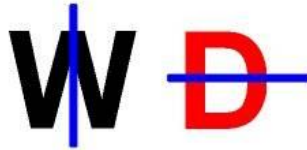
$$\begin{array}{r} 91.0 \\ -74.5 \\ \hline 16.5 \end{array}$$

Hence, 16.5 should be added to 74.5 to get 91.

21. a.  $y + 7$

b.  $\frac{a}{23}$

22. The complete image is as below:



23. (a) Number of students whose favourite colour is blue = 30.  
(b) Number of students whose favourite colour is green = 45  
Number of students whose favourite colour is red = 25  
Thus, required number of students =  $45 - 25 = 20$
24. Speed of the bus =  $v$  km per hour  
Distance travelled by the bus in 10 hours =  $10v$  km  
According to the question,  
Distance from Delhi to Mumbai  
= Distance travelled by bus in 10 hours + 80 km  
=  $10v$  km + 80 km  
=  $(10v + 80)$  km

### Section C

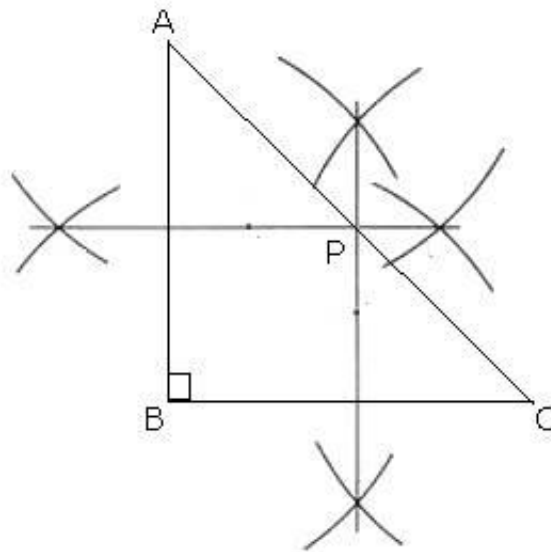
25. Total balls = 55  
Blue balls = 25  
Remaining balls are =  $55 - 25 = 30$   
Given that remaining balls are in the ratio of 2 : 1.  
Let these balls be  $2x$  and  $1x$  respectively.  
 $\Rightarrow 2x + 1x = 30$   
 $\Rightarrow 3x = 30 \Rightarrow x = 10$   
Thus, number of other two balls are  
 $2x = 2 \times 10 = 20$  and  $1x = 1 \times 10 = 10$   
Ratio of sum of other two balls to the blue balls =  $\frac{30}{25} = \frac{6}{5} = 6:5$

26.

1. Maximum rainfall occurred in city B, i.e.,  $25 \times 10 = 250$  cm
2. Minimum rainfall was in city F that is  $25 \times 1 = 25$  cm
3. Difference between rainfalls of city A and F =  $(7 - 1) \times 25 = 150$  cm

27. The steps of construction are as follows:

1. Draw right angle triangle ABC with right angle at B.
2. Construct perpendicular bisectors of sides AB and BC.
3. Let the point of intersection of the perpendiculars be P.
4. By observing this point P lies on hypotenuse AC.



28. Total area of tiles must be equal to the area of the floor of the room.

Length = 15 m and Breadth = 16 m

Area of the floor = length  $\times$  breadth =  $15 \times 16 = 240$  sq. m

Area of one rectangular tile = length  $\times$  breadth =  $1.5 \times 1 = 1.5$  sq. m

$$\therefore \text{Number of tiles required} = \frac{\text{Area of floor}}{\text{Area of one tile}} = \frac{240}{1.5} = 160$$

29. Number of girls in the class = 35

Number of boys in the class = 45

Total number of students =  $35 + 45 = 80$

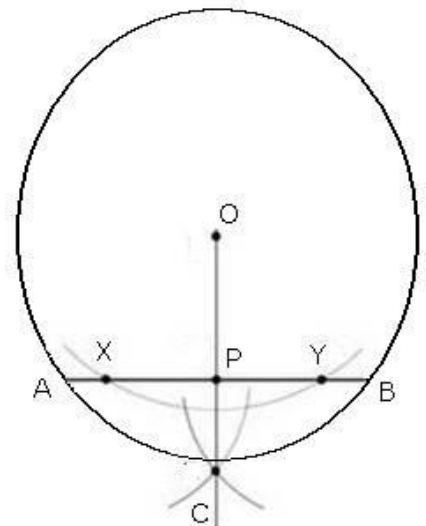
Ratio of boys to girls =  $45 : 35 = 9 : 7$  (dividing by 5)

Ratio of boys to total number of students =  $45 : 80 = 9 : 16$

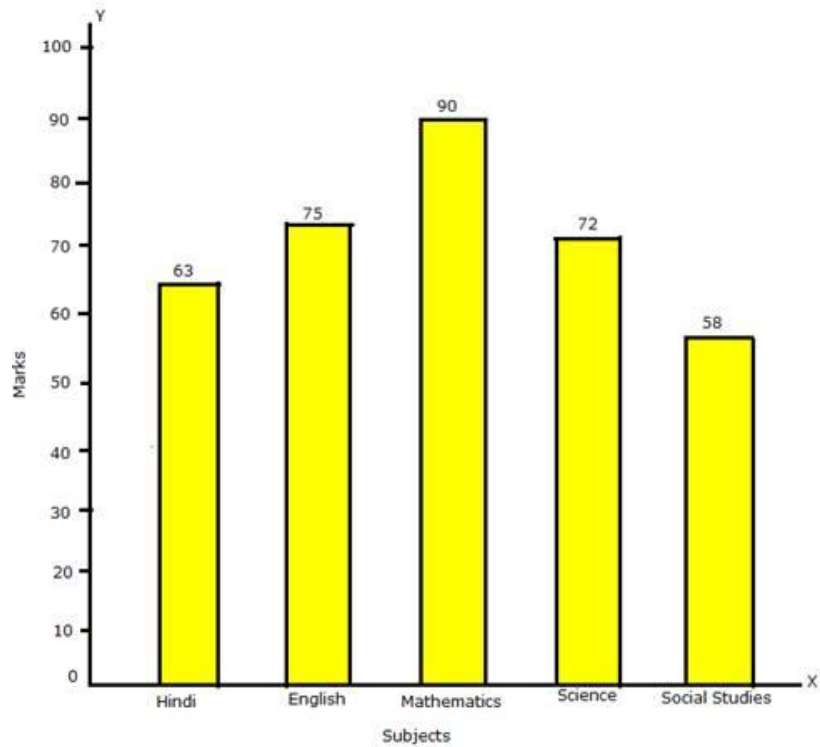
30. Area of a square wall = side  $\times$  side =  $10 \times 10 = 100$  sq. m  
 Area of four square walls =  $4 \times 100 = 400$  sq. m  
 Cost of painting 1 sq. m of wall = Rs. 20  
 Therefore, total cost of painting = Rs.  $20 \times 400 = \text{Rs. } 8000$
31. Let the breadth of the rectangular field be  $x$ .  
 Therefore, its length will be  $2x$ .  
 As per given in question,  
 Perimeter = 180 m  
 $\Rightarrow 2(\text{length} + \text{breadth}) = 180$  m  
 $\Rightarrow 2(x + 2x) = 180$  m  
 $\Rightarrow 2(3x) = 180$  m  
 $\Rightarrow 6x = 180$  m  
 $\Rightarrow x = 30$  m  
 Thus, its breadth = 30 m and its length =  $2 \times 30 = 60$  m
32. Let the age of Shrehan be  $x$  years.  
 Then, age of Jasmine =  $x + 6$  years  
 Sum of their ages = 30  
 $\Rightarrow x + x + 6 = 30$   
 $\Rightarrow 2x + 6 = 30$   
 Subtracting 6 from both sides,  
 $\Rightarrow 2x = 30 - 6$   
 $\Rightarrow 2x = 24$   
 $\Rightarrow x = 12$   
 Age of Shrehan = 12 years  
 Age of Jasmine = 18 years

## Section D

33. Steps of construction:
1. Draw a circle with centre  $O$  and any radius and make a chord  $AB$ .
  2. Taking  $O$  as a centre and a suitable radius, draw an arc which cut the chord  $AB$  at two points  $X$  and  $Y$ .
  3. Taking  $X$  and  $Y$  as centre and same radius draw two arcs and let them intersect at  $C$ .
  4. Join  $OC$ ; name the point of intersection of  $AB$  and  $OC$  as  $P$ .  
 Measure  $AP$  and  $PB$ , we find that  $AP = PB$ .  
 Hence, the perpendicular from centre divides the chord in two equal parts.



34. The bar graph is as follows:



35.

A. Since M is between K and N,  $\overline{KM} + \overline{MN} = \overline{KN}$ .

$$\overline{KM} + \overline{MN} = \overline{KN}$$

$$(2x - 4) + 3x = 26$$

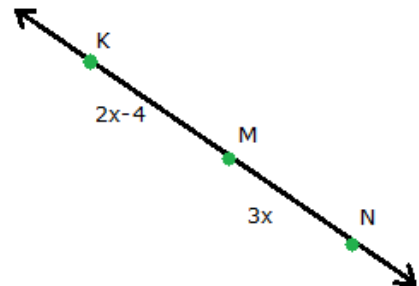
$$5x - 4 = 26$$

$$5x = 30$$

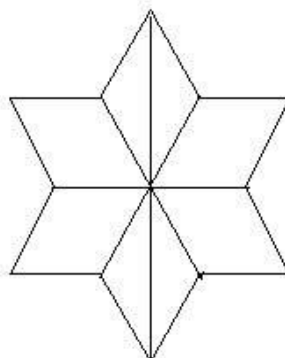
$$x = 6$$

Therefore,

$$\overline{MN} = 3x = 3(6) = 18$$



B. There can be maximum four lines of symmetry.



36.

a) Let the number be  $x$ .

$\therefore$  Twice the number =  $2x$

$\therefore$  Equation becomes  $2x + 6 = 10$

Put  $x = 1$  in L.H.S.,

$$2 \times 1 + 6 = 2 + 6 = 8$$

Again, put  $x = 2$

$$2 \times 2 + 6 = 4 + 6 = 10.$$

Thus for  $x = 2$ , L.H.S. = R.H.S.

So, the required number is 2.

b) Let the number be  $x$ .

$\therefore$  L.H.S. =  $6x - 3$  and R.H.S. = 9

Put  $x = 1$  in L.H.S.,

$$6 \times 1 - 3 = 6 - 3 = 3$$

Again put  $x = 2$

$$6 \times 2 - 3 = 12 - 3 = 9.$$

Thus, for  $x = 2$ , L.H.S. = R.H.S.

So, the required number is 2.

37. Distance covered by Rohit = perimeter of triangle  
=  $3 \times$  length of one side  
=  $3 \times 30$  m  
= 90 m

Distance covered by Mohit = Perimeter of square  
=  $4 \times$  length of one side  
=  $4 \times 25$  m  
= 100 m

Difference in the distance covered =  $100 \text{ m} - 90 \text{ m} = 10 \text{ m}$

Therefore, Mohit covered 10 m more distance than Rohit.