

CBSE Board
Class VIII Mathematics
Term I
Sample Paper - 1

Time: 1 hour

Total Marks: 25

Solution
Section A

1. Correct answer: C
 2.5 is greater than 2.4 and less than 2.6 and 2.7.
 Hence, on a number line, 2.5 will lie between 2.4 and 2.7.
2. Correct answer: B
 20% of x

$$= \frac{20}{100} x$$

$$= \frac{x}{5}$$
3. Correct answer: A 5
4. Correct answer: C

$$\text{|||||} = 5 + 5 + 3 = 13$$
5. Correct answer: A
 1 is a square as well as a triangular number.
6. Correct answer: B
 Cube root of $(-8) \times (-343) \times (125)$
 $= (-2) \times (-7) \times 5 = 70$

Section B

$$7. \frac{2}{5} \times \frac{-3}{7} - \frac{1}{14} - \frac{3}{7} \times \frac{3}{5} = \frac{2}{5} \times \frac{-3}{7} - \frac{3}{7} \times \frac{3}{5} - \frac{1}{14}$$

(by commutativity)

$$= \frac{2}{5} \times \frac{-3}{7} + \left(\frac{-3}{7}\right) \times \frac{3}{5} - \frac{1}{14}$$

$$= \frac{-3}{7} \left(\frac{2}{5} + \frac{3}{5}\right) - \frac{1}{14}$$

(by distributivity)

$$= \frac{-3}{7} \times 1 - \frac{1}{14} = \frac{-6}{14} - \frac{1}{14} = \frac{-7}{14} = \frac{-1}{2}$$

8. Let x be the greater part.

Then, $64 - x$ is the smaller part.

$$\text{Then } 3x = 5(64 - x)$$

$$3x = 320 - 5x$$

$$3x + 5x = 320$$

$$8x = 320$$

$$x = 40$$

So, the two parts are 40 and 24.

9. Opposite sides are equal in a parallelogram

Therefore, $3y+1 = 19$

$$\text{Or, } 3y = 19-1$$

$$\text{Or, } 3y = 18$$

$$\text{Or, } y = 6$$

Also, $4x+3 = 23$

$$\text{Or, } 4x = 23-3$$

$$\text{Or, } 4x = 20$$

$$\text{Or, } x=5$$

Hence $x = 5$ and $y = 6$.

10. Let the number of chairs in each row be x .

Then, the number of rows = x .

Total number of chairs in the auditorium = $(x \times x) = x^2$.

But the number of chairs that the auditorium can accommodate = 1764 (given)

2	1764
2	882
3	441
3	147
7	49
7	7
	1

$$\begin{aligned} \therefore x^2 &= 1764 \\ &= \underline{2 \times 2} \times \underline{3 \times 3} \times \underline{7 \times 7} \\ \Rightarrow x &= (2 \times 3 \times 7) \\ &= 42. \end{aligned}$$

Hence, the number of chairs in each row is 42.

11. Here,

Total number of outcomes = $10 + 25 = 35$

Let E be the event of getting a prize.

Number of outcomes favourable to event E = 10

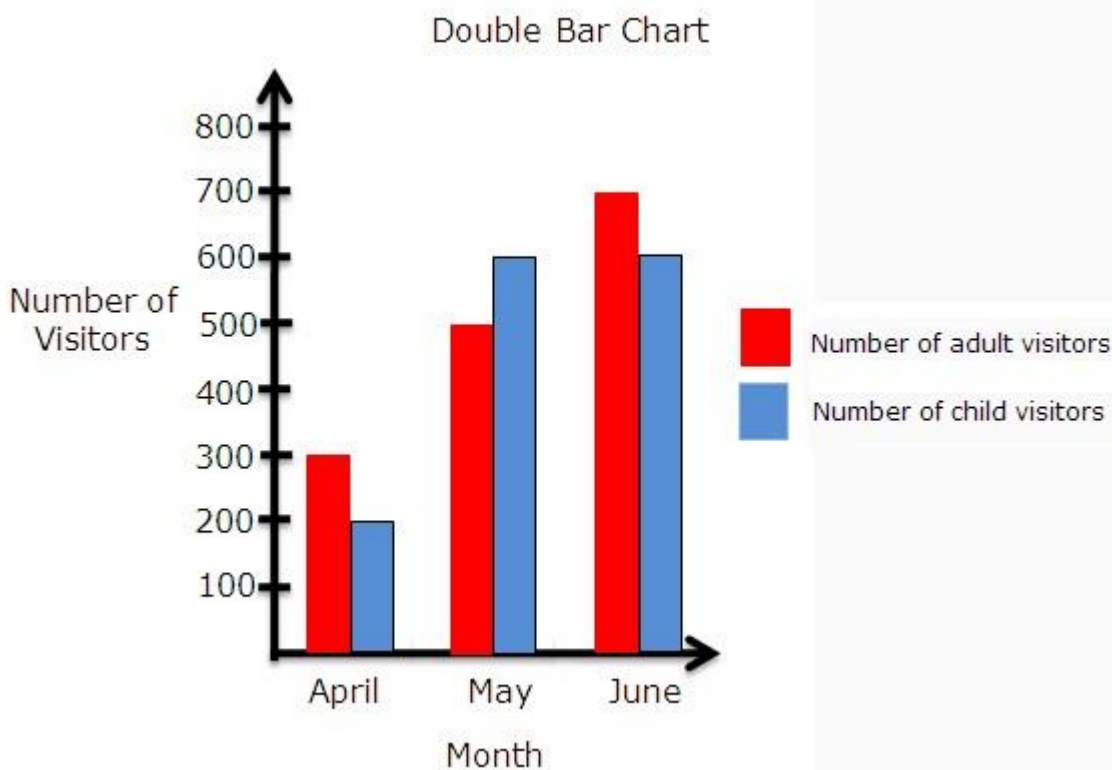
$$P(E) = \frac{\text{Number of favourable outcomes}}{\text{Total number of outcomes}} = \frac{10}{35} = \frac{2}{7}$$

Probability of getting a prize = $\frac{2}{7}$

Section C

12. Represent the months on the x-axis and the number of visitors on the y-axis.

The double bar graph is as follows:



13. The prime factorisation of 3087 is

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

Prime factor 3 does not appear in a group of 3.

Clearly, to make 3087 a perfect cube, it must be multiplied by 3. Then, we have:

$$3087 \times 3 = \underline{3 \times 3 \times 3} \times \underline{7 \times 7 \times 7} = (3 \times 7)^3 = 21^3$$

14. Let the time required be n years.

Then,

$$\text{amount} = \text{Rs} \left\{ 1000 \times \left(1 + \frac{10}{100} \right)^n \right\}$$

$$= \text{Rs} \left\{ 1000 \times \left(\frac{11}{10} \right)^n \right\}$$

but,

$$\text{Rs} \left\{ 1000 \times \left(\frac{11}{10} \right)^n \right\} = \text{Rs } 1331$$

$$\Rightarrow \left(\frac{11}{10} \right)^n = \frac{1331}{1000} = \frac{11 \times 11 \times 11}{10 \times 10 \times 10}$$

$$\Rightarrow \left(\frac{11}{10} \right)^n = \left(\frac{11}{10} \right)^3$$

$$\Rightarrow n = 3$$

Hence, the required time = 3 years.