



# CREST Mathematics Olympiad (CMO) Worksheet *for* Class 8



**Topic**

**Introduction to Graphs**



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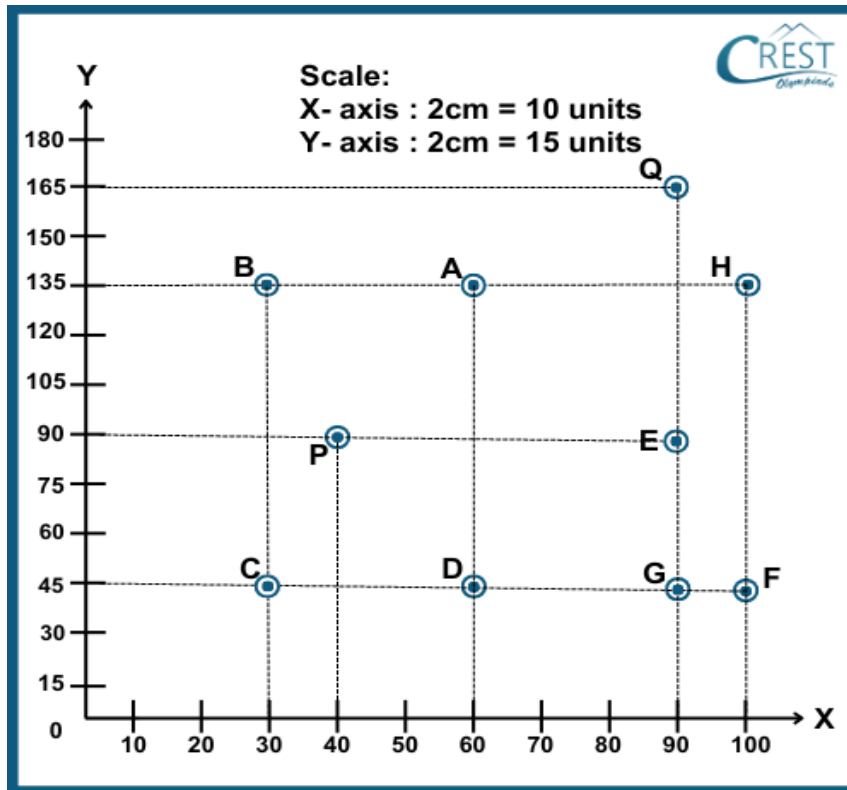
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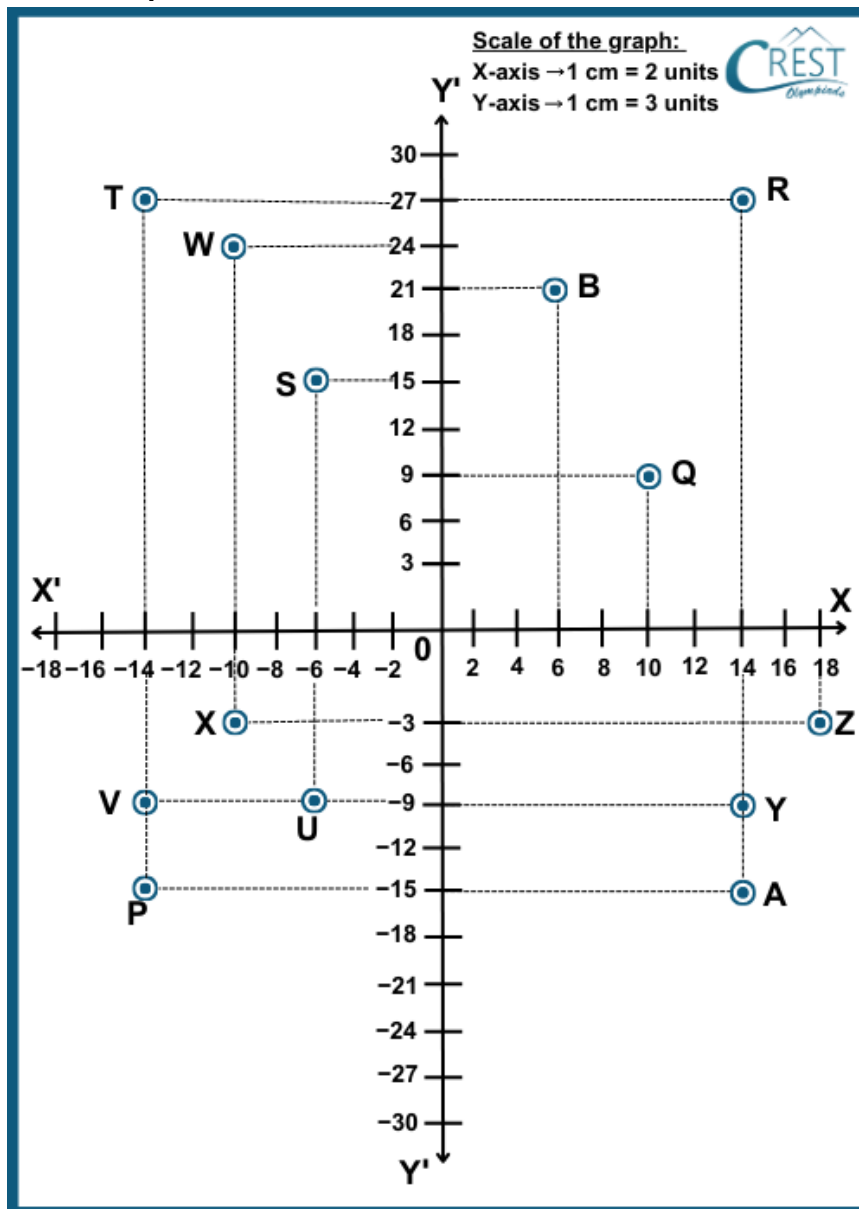
## Worksheet on Introduction to Graphs

1. Which one of the following points has an abscissa that is twenty more than double the abscissa of point P and whose ordinate is ten less than one-third of the ordinate of point Q?



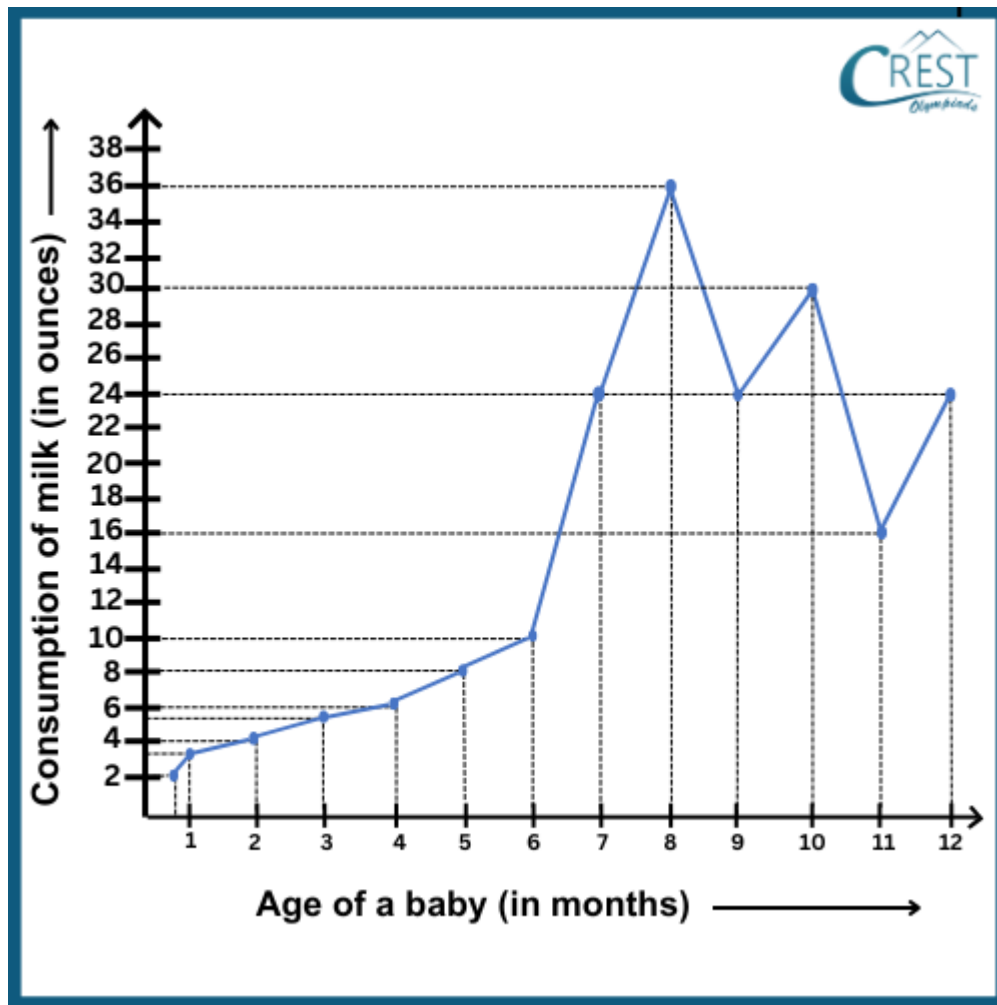
- a. B
- b. D
- c. E
- d. F

2. Which quadrant has a point whose ordinate is three more than four-fifths of the ordinate of point A and whose abscissa is twenty-four less than three times the abscissa of point B?



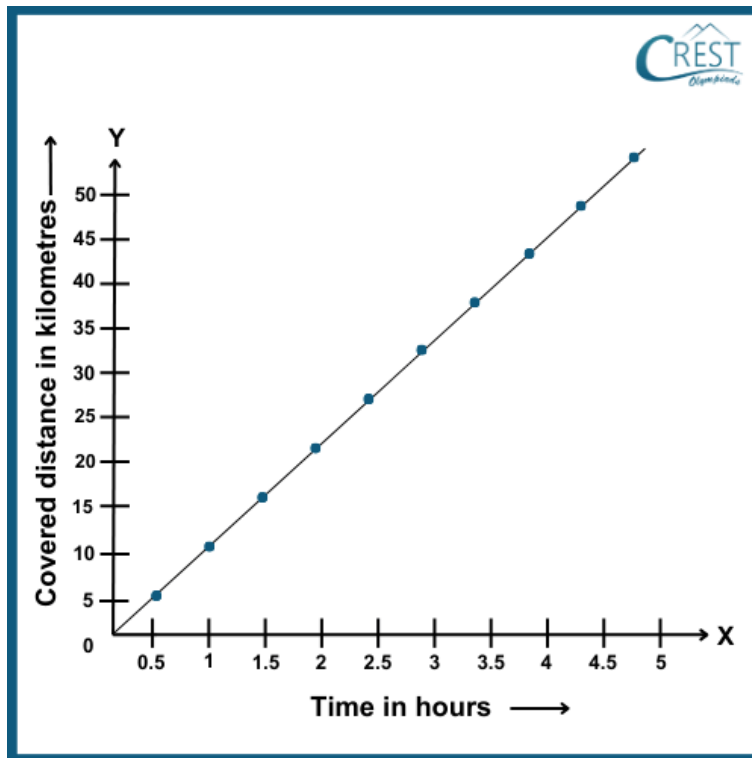
- a. First Quadrant
- b. Second Quadrant
- c. Third Quadrant
- d. Fourth Quadrant

Direction (3-4) The graph shows the consumption of milk per month by the baby at different ages. Study the graph carefully and answer the following questions:



3. What is the difference in consumption of milk between the ages of 7 months and 8 months?
- a. 6 ounces
  - b. 8 ounces
  - c. 12 ounces
  - d. 20 ounces
4. What is the consumption of milk by the baby in the whole year?
- a. 170 ounces
  - b. 172 ounces
  - c. 190 ounces
  - d. 192 ounces

5. The linear graph shows the distance covered at a particular time. What is the distance covered between 3 and 4.5 hours?



- a. 5 kilometres
- b. 15 kilometres
- c. 25 kilometres
- d. 35 kilometres

**Answer Key**

1. d - F

**Explanation:** From the graph, point P is (40, 90) and point Q is (90, 165).

The abscissa of P is **40** and the ordinate of Q is **165**.

The point whose abscissa is twenty more than double the abscissa of point P

$$= 2 \times 40 + 20$$

$$= 80 + 20$$

$$= 100$$

The point whose ordinate is ten less than one-third of the ordinate of point Q

$$= \frac{1}{3} \times 165 - 10$$

$$= 55 - 10$$

$$= 45$$

The point is (100, 45).

Hence, the point on the graph is F.

2. c - Third Quadrant

**Explanation:** From the graph, point A is (14, -15) and point B is (6, 21).

The ordinate of A is -15 and the abscissa of B is 6.

The point whose ordinate is three more than four-fifths of the ordinate of point A

$$= \frac{4}{5} \times (-15) + 3$$

$$= -12 + 3$$

$$= -9$$

The point whose abscissa is twenty-four less than three times the abscissa of point B =  $3 \times 6$

$$- 24$$

$$= 18 - 24$$

$$= -6$$

The point is (-6, -9). Therefore, the point on the graph is U.

Hence, the point lies in the third quadrant.

3. c - 12 ounces

**Explanation:** Difference in consumption of milk between the ages of 7 months and 8 months

$$= 36 - 24$$

$$= 12 \text{ ounces}$$

4. c - 190 ounces

**Explanation:** Consumption of milk by the baby in the whole year

$$= 3 + 4 + 5 + 6 + 8 + 10 + 24 + 36 + 24 + 30 + 16 + 24 = 190 \text{ ounces}$$

5. b - 15 kilometres

**Explanation:** Distance covered between 3 and 4.5 hours =  $45 - 30 = 15$  kilometres

**More Questions Coming Soon – Keep Learning!**

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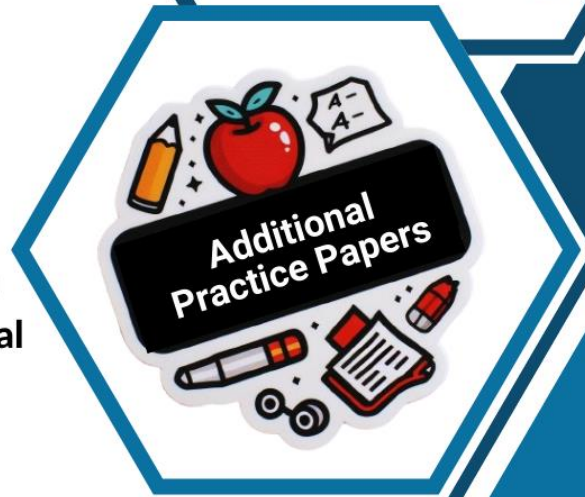
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