# **Construction in Mathematics**

1. What tool is primarily used	to draw a perfect circle?
a) Ruler	b) Divider
c) Compass	d) Set square
2. To draw a line segment of 5	s cm, you will use:
a) Protractor	b) Compass
c) Ruler	d) Divider
3. A perpendicular bisector of	a line segment divides it into
a) Two unequal parts	b) Two equal parts
c) Three parts	d) Four equal parts
4. Which of the following is us	sed to measure angles?
a) Compass	b) Protractor
c) Ruler	d) Divider
5. The figure formed when we	e join three points is a:
a) Line	b) Ray
c) Triangle	d) Circle

- 1. A \_\_\_\_\_ is used to draw arcs and circles.
- 2. A line segment has two \_\_\_\_\_.
- 3. A \_\_\_\_\_ angle measures exactly 90 degrees.
- 4. A triangle can be constructed when the \_\_\_\_\_ of all three sides is known.
- 5. The tool used to measure the length of a line segment is called a \_\_\_\_\_.

#### C. Figure out the answers to these questions:

- 1. Draw a line segment of length 6 cm and bisect it using a compass and ruler. Show all construction steps clearly.
- 2. Construct an angle of 60° using only a compass and ruler. Explain each step.
- 3. Draw a triangle with sides of 5 cm, 6 cm, and 7 cm using ruler and compass only.
- 4. Using a protractor, draw an angle of 45°. Then, copy this angle using a compass.

- 5. Construct a perpendicular to a line from a point on the line. Write steps involved.
- 6. Draw a circle of radius 3 cm. Mark a point on the circle and draw a tangent to it.

## **D.** Mark each sentence with a True ( $\checkmark$ ) or False (X):

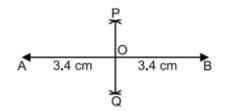
- 1. A compass is used to measure the size of an angle.
- 2. Two lines that meet at a right angle are called perpendicular lines.
- 3. It is not possible to construct a triangle if the sum of two sides is less than the third side.

- 4. You need a compass to construct a bisector of a line segment.
- 5. A line has two endpoints.

#### E. Challenge yourself with these questions:

- 1. Draw a circle of radius 4.5 cm. Mark its center and draw a diameter.
- 2. Construct a triangle in which two sides are equal and the third side is 6 cm.
- 3. Draw two intersecting lines and show the angles formed. Name all angles.
- 4. Draw a line and mark a point above it. Construct a perpendicular to the line from the point.
- 5. Draw an angle of 90° and then bisect it. What angle is formed?
- 6. Measure and construct a 30° angle. Then draw its supplementary angle.

# F. Observe the given figure and write the steps of construction which have been followed to draw it.



### G. Construct the following angles using compasses.

1. 60°	2. 30°	3. 120°
4. 90°	5. 45°	6. 15°