

# Mathematics

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(Chapter – 14) (Practical Geometry)

(Class – VI)

## Exercise 14.1

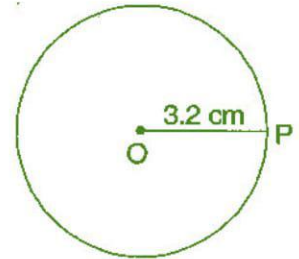
### Question 1:

Draw a circle of radius 3.2 cm.

#### Answer 1:

##### Steps of construction:

- Open the compass for the required radius of 3.2 cm.
  - Make a point with a sharp pencil where we want the centre of circle to be.
  - Name it O.
  - Place the pointer of compasses on O.
  - Turn the compasses slowly to draw the circle.
- Hence, it is the required circle.



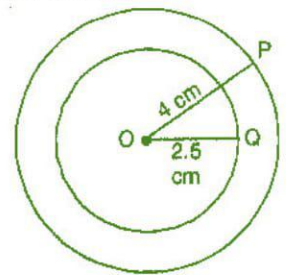
### Question 2:

With the same centre O, draw two circles of radii 4 cm and 2.5 cm.

#### Answer 2:

##### Steps of construction:

- Marks a point 'O' with a sharp pencil where we want the centre of the circle.
  - Open the compasses 4 cm.
  - Place the pointer of the compasses on O.
  - Turn the compasses slowly to draw the circle.
  - Again open the compasses 2.5 cm and place the pointer of the compasses on O.
  - Turn the compasses slowly to draw the second circle.
- Hence, it is the required figure.

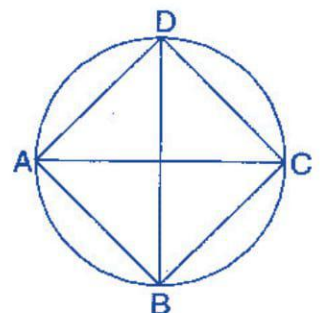
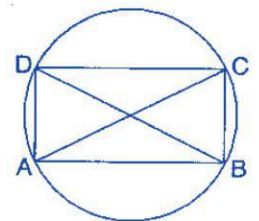


### Question 3:

Draw a circle and any two of its diameters. If you join the ends of these diameters, what is the figure obtained if the diameters are perpendicular to each other? How do you check your answer?

#### Answer 3:

- By joining the ends of two diameters, we get a rectangle. By measuring, we find  $AB = CD = 3 \text{ cm}$ ,  $BC = AD = 2 \text{ cm}$ , i.e., pairs of opposite sides are equal and also  $\angle A = \angle B = \angle C = \angle D = 90^\circ$ , i.e. each angle is of  $90^\circ$ .  
Hence, it is a rectangle.
- If the diameters are perpendicular to each other, then by joining the ends of two diameters, we get a square. By measuring, we find that  $AB = BC = CD = DA = 2.5 \text{ cm}$ , i.e., all four sides are equal. Also  $\angle A = \angle B = \angle C = \angle D = 90^\circ$ , i.e. each angle is of  $90^\circ$ .  
Hence, it is a square.



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## Question 4:

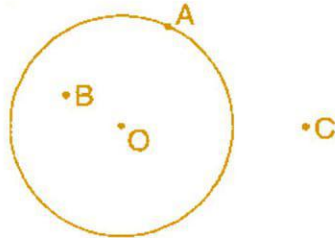
Draw any circle and mark points A, B and C such that:

- (a) A is on the circle.
- (b) B is in the interior of the circle.
- (c) C is in the exterior of the circle.



## Answer 4:

- (i) Mark a point 'O' with sharp pencil where we want centre of the circle.
- (ii) Place the pointer of the compasses at 'O'. Then move the compasses slowly to draw a circle.
  - (a) Point A is on the circle.
  - (b) Point B is in interior of the circle.
  - (c) Point C is in the exterior of the circle.



## Question 5:

Let A, B be the centres of two circles of equal radii; draw them so that each one of them passes through the centre of the other. Let them intersect at C and D. Examine whether  $\overline{AB}$  and  $\overline{CD}$  are at right angles.



## Answer 5:

Draw two circles of equal radii taking A and B as their centre such that one of them passes through the centre of the other. They intersect at C and D. Join AB and CD.

Yes, AB and CD intersect at right angle as  $\angle COB$  is  $90^\circ$ .

