

Playing with Constructions

Class VI Mathematics – Worksheets

MCQs (PART-2) ($10 \times 1 = 10$ marks)

11. While drawing a circle using a compass, the distance between the compass needle and the pencil is 5 cm. What does this distance represent?

- a. Diameter of the circle
- b. Circumference of the circle
- c. Radius of the circle
- d. Chord of the circle

12. A rectangle has a length of 9 cm and a breadth of 5 cm. Which statement is always true?

- a. All four sides are equal.
- b. Opposite sides are equal and all angles are 90° .
- c. All angles are less than 90° .
- d. Adjacent sides are always equal.

13. A student rotates a square through 45° . Which of the following changes after the rotation?

- a. Length of its sides
- b. Measure of its angles
- c. Its orientation only
- d. Shape of the figure

14. To locate a point that is exactly 6 cm from two given points A and B, each 6 cm apart, which construction should be used?

- a. Draw only one circle with centre A.
- b. Draw two circles of radius 6 cm with centres A and B.
- c. Draw two parallel lines through A and B.
- d. Join A and B and mark the midpoint.

15. Which instrument is most suitable for transferring the exact length of one line segment to another without measuring it repeatedly?

- a. Protractor
- b. Divider/Compass
- c. Set square
- d. Scale only

16. All the points that are at the same distance from a fixed point form a:

- a) Line
- b) Triangle
- c) Circle
- d) Square

17.. The point where two lines meet is called

- (a) ray
- (b) vertex
- (c) intersection point
- (d) mid point

18.. A quadrilateral with all sides equal is

- (a) rectangle
- (b) square
- (c) trapezium
- (d) parallelogram

19.. Radius =

- A. half of diameter
- B. double of diameter
- C. one fourth of diameter
- D. none of these

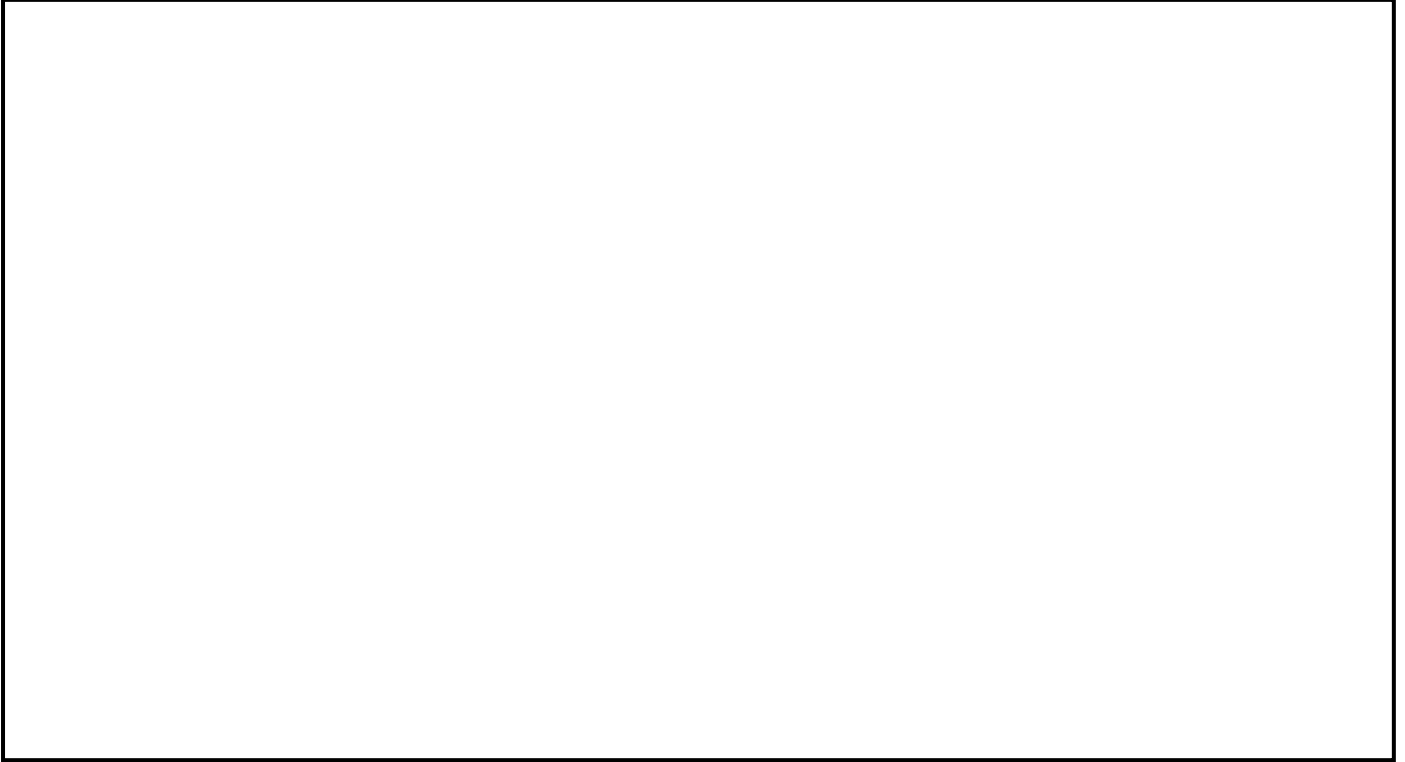
20. If a rectangle ABCD has side $AB = 7$ cm, what is the length of **side CD**?

- A. 4 cm
- B. 7 cm
- C. 11 cm
- D. 14 cm

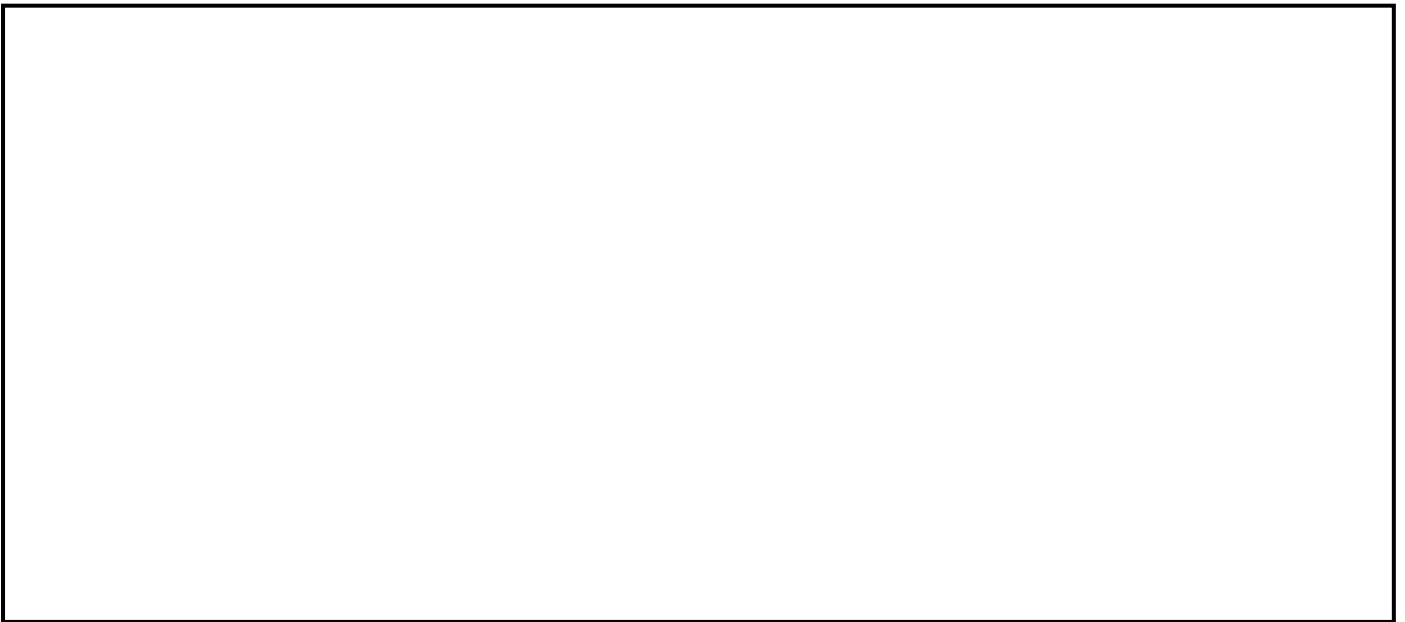
WORKSHEET-2

Section B: Short Answer ($10 \times 2 = 20$ marks)

1. Draw a rectangle with sides of length 3.5 cm and 7 cm .



2. Draw a square with a circular hole of radius 3 cm.



3. Match the following:

A

B

Ruler

measuring angle

Compass

comparing length

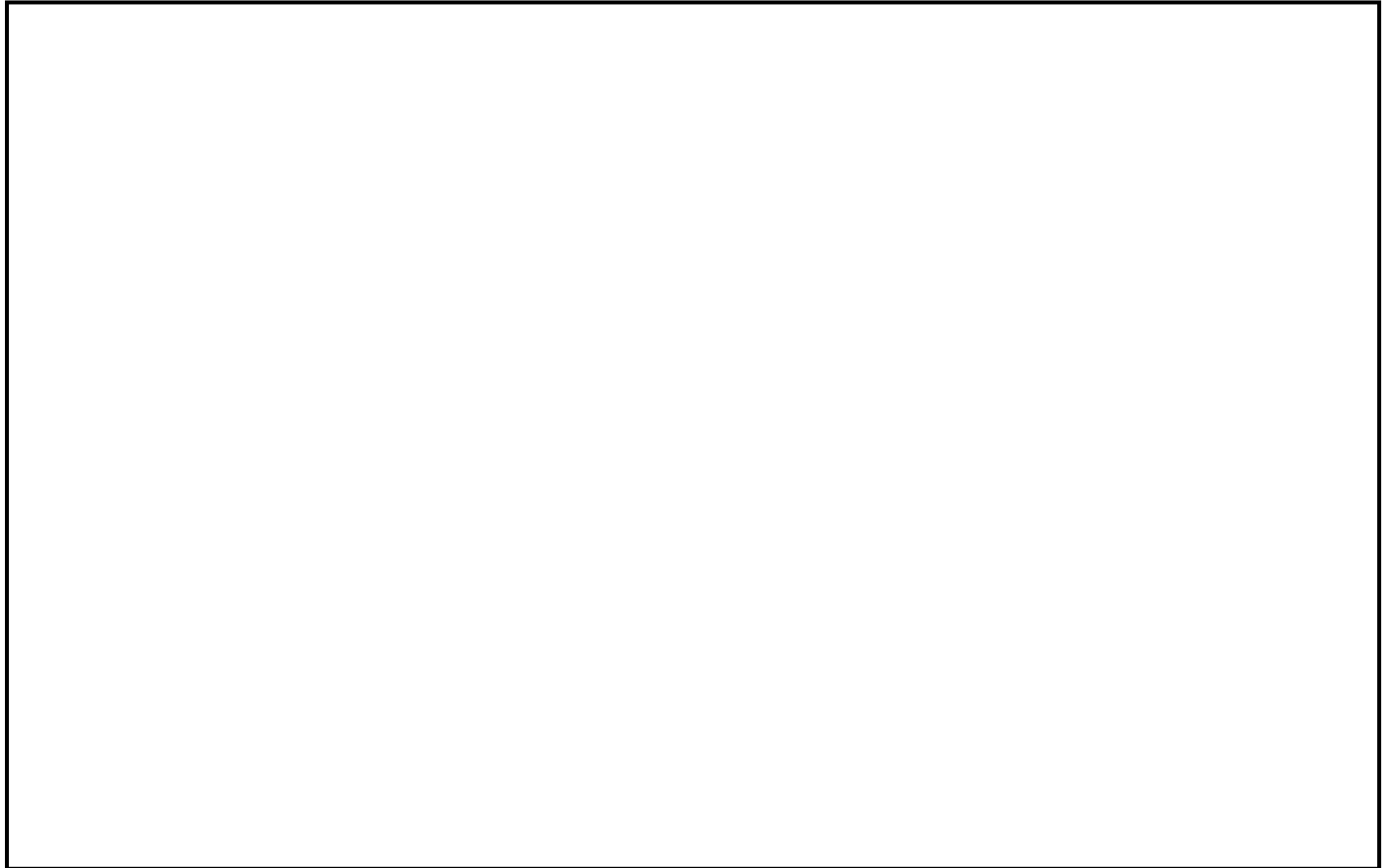
Divider

construct circles

Protractor

drawing a line

4. Draw circles with radii 4.5 cm and 6 cm



5. Let PQ be a line of length 9cm and R is the midpoint of PQ. What is the distance of R from Q?

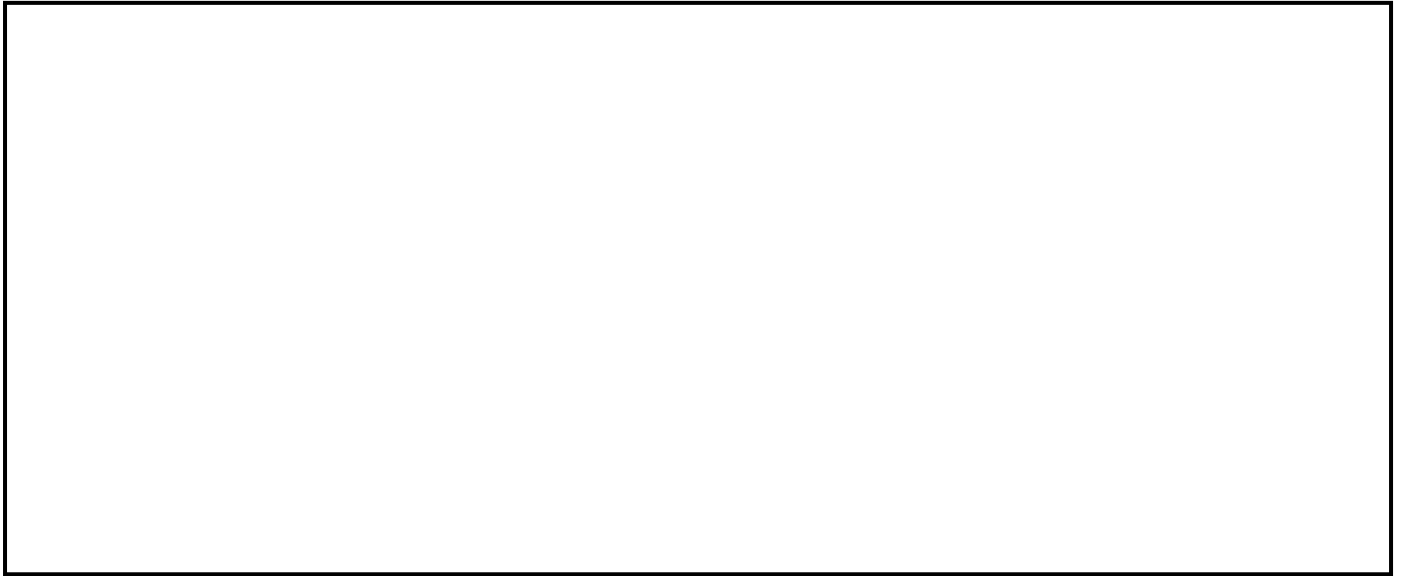


6. Construct a perpendicular line at point P on line segment PQ. Also write step of construction.

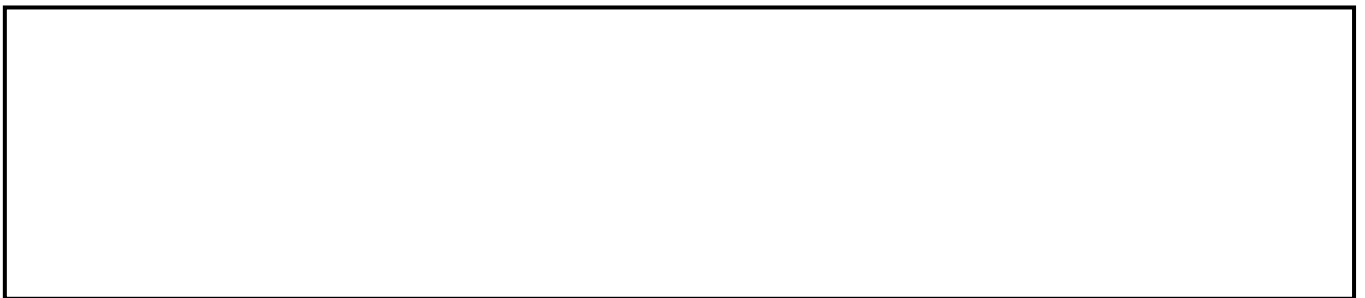
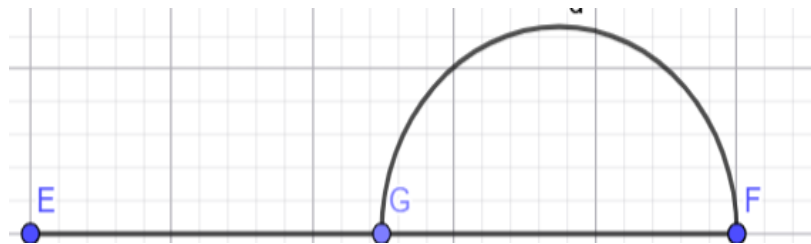
7. Construct a square of side 5.5cm.

8. Write two properties of square.

9. Draw a rectangle of sides 3cm and 5cm. Verify that the diagonals are equal in length.



10. In the figure given that EG is half of EF. If EF = 16cm then find the radius of the semicircle shown in the figure.

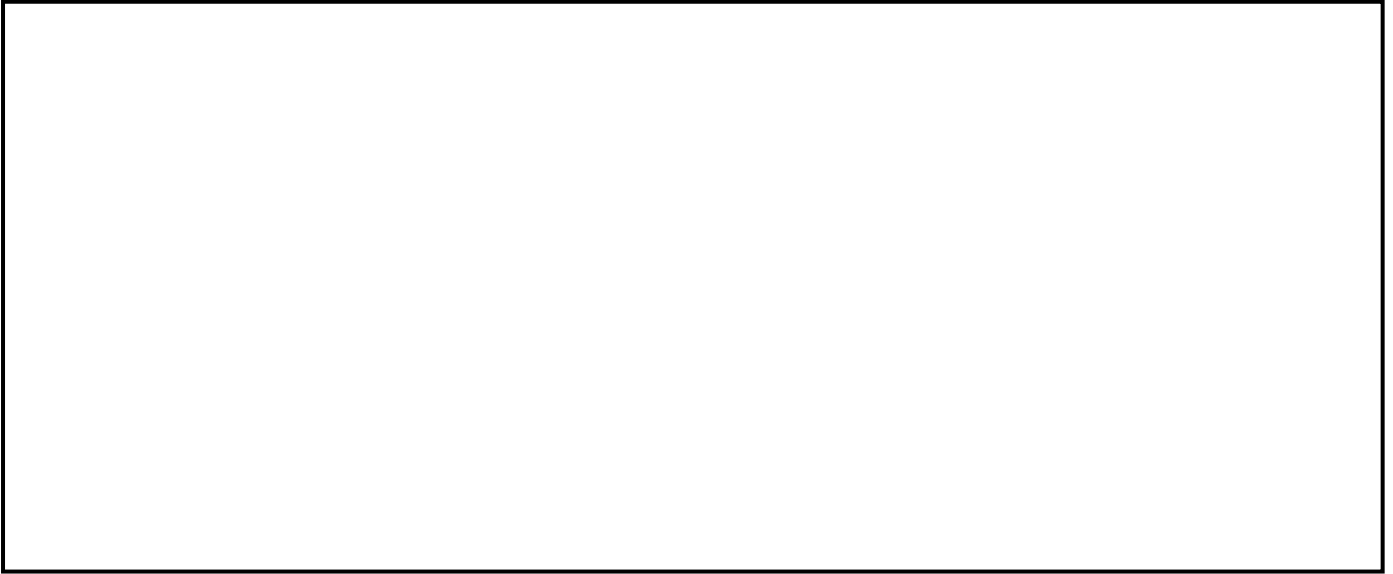


Section C: Short Answer ($6 \times 3 = 18$ marks)

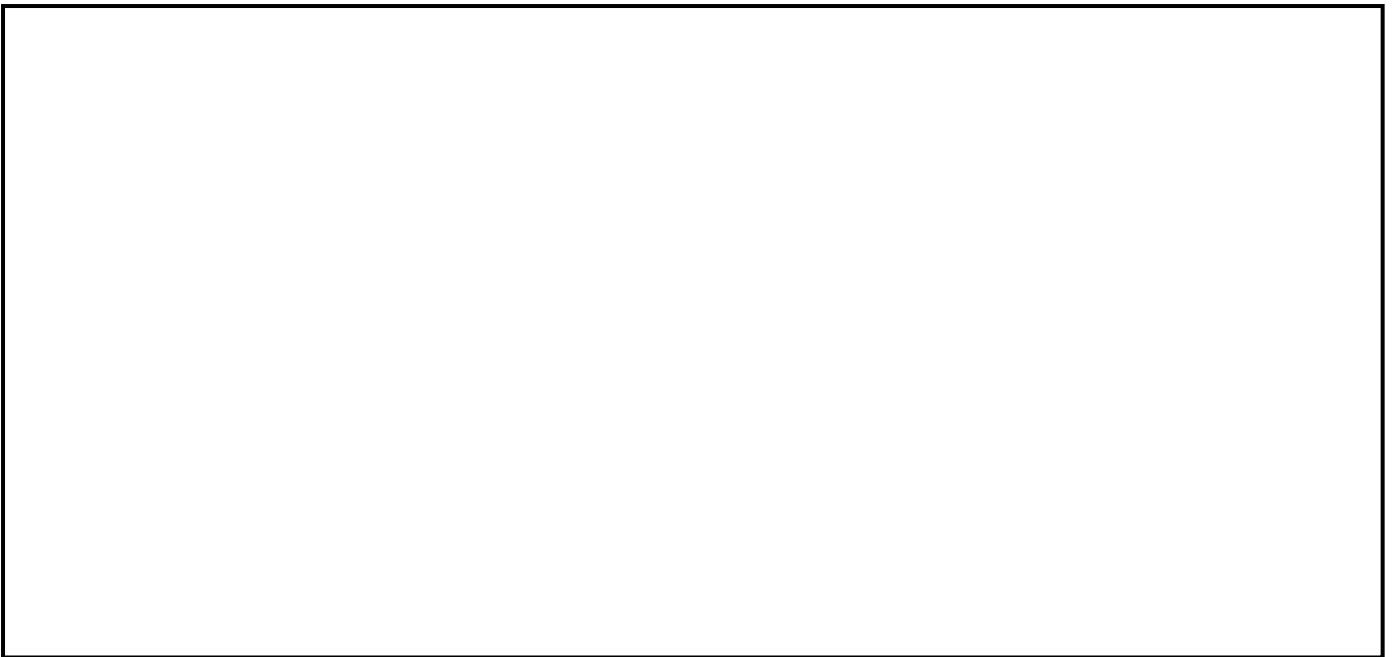
11. Construct a rectangle and divide it into two equal smaller squares.



12. Construct a rectangle with sides 4 cm and 3 cm. Measure the length of its diagonals.



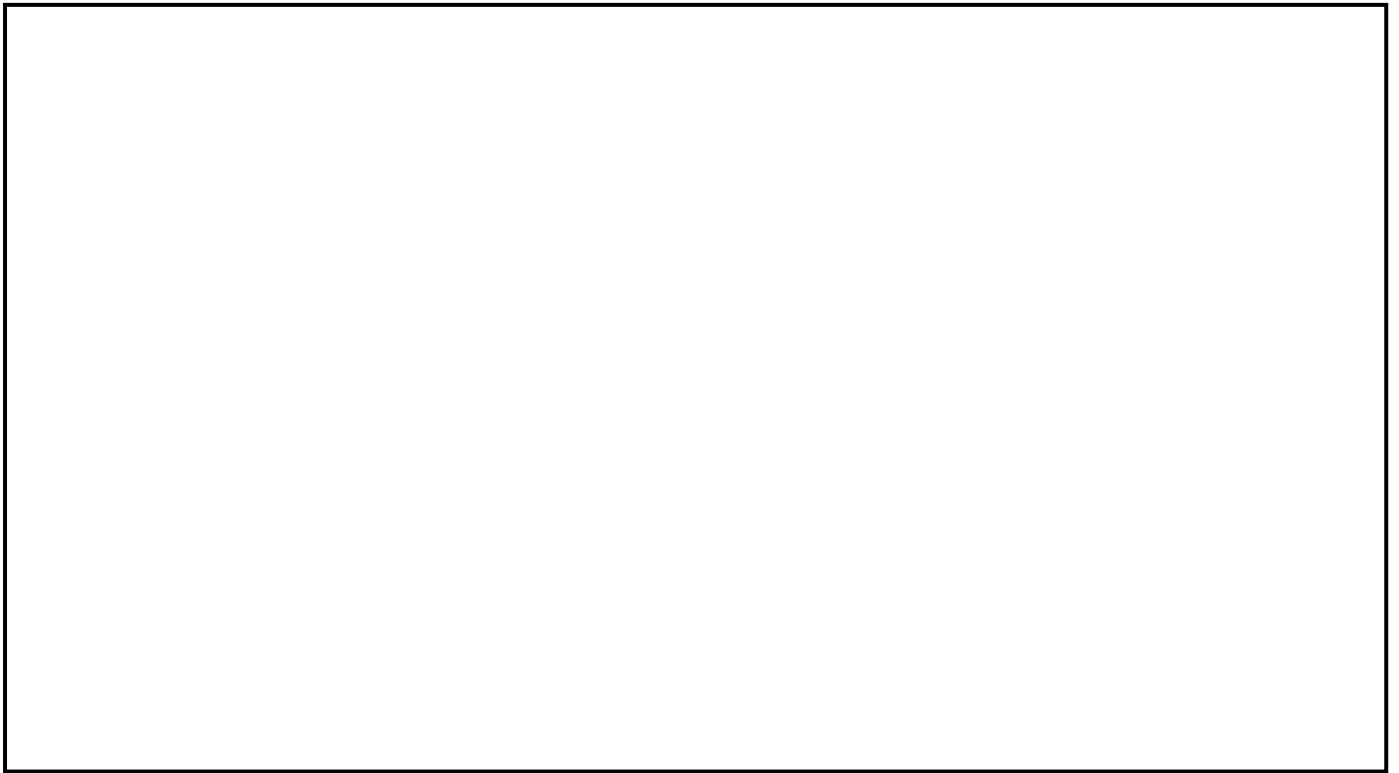
13. Construct a rectangle one of whose sides is 5 cm and the diagonal is of length 8 cm..



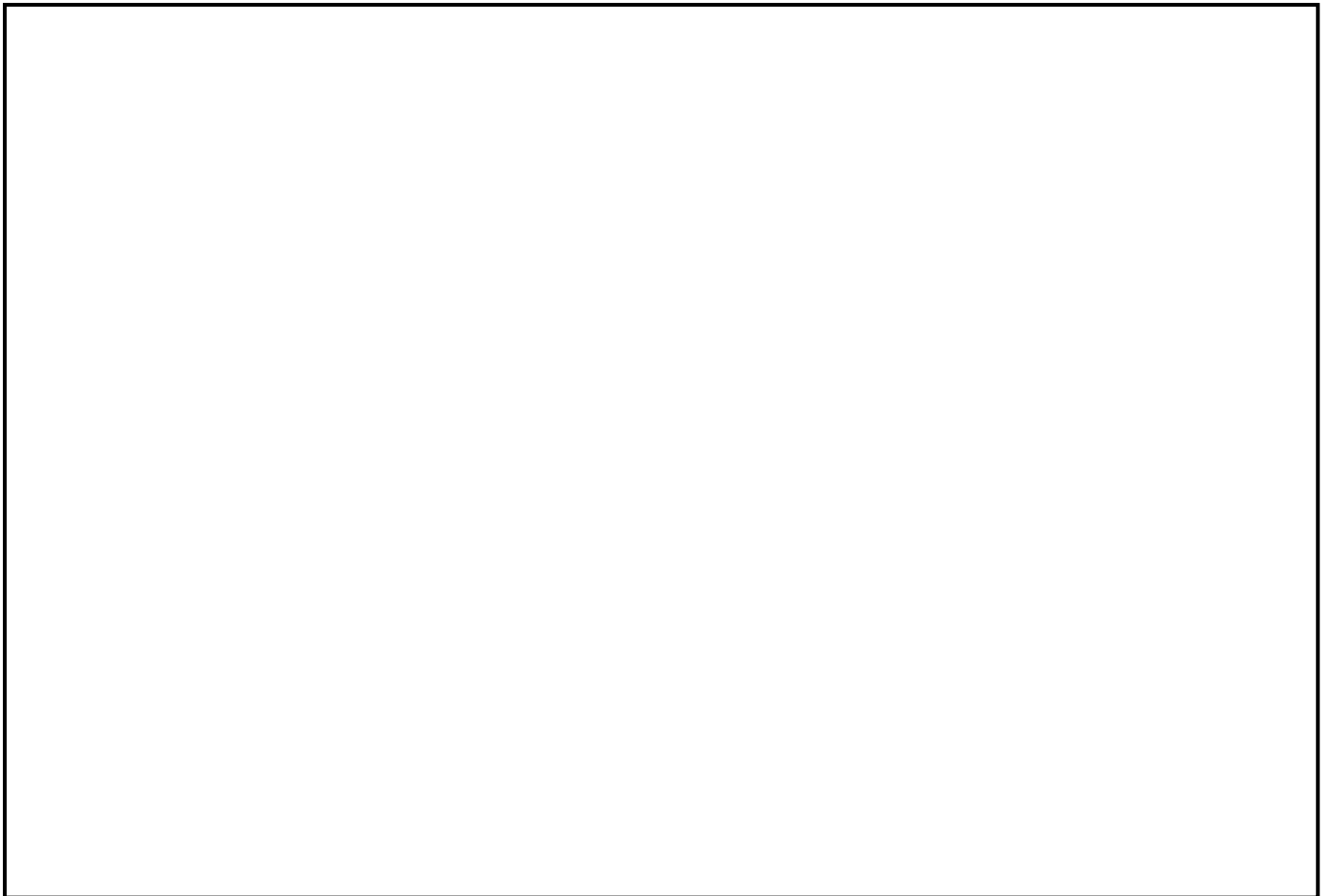
14. Describe how to find the exact centre of a square to place a circular hole.



15. Construct a rectangle where one of its sides is 5cm and the length of a diagonal is 7cm.



16. Construct a square of sides 7.5 cm and measure its diagonals.

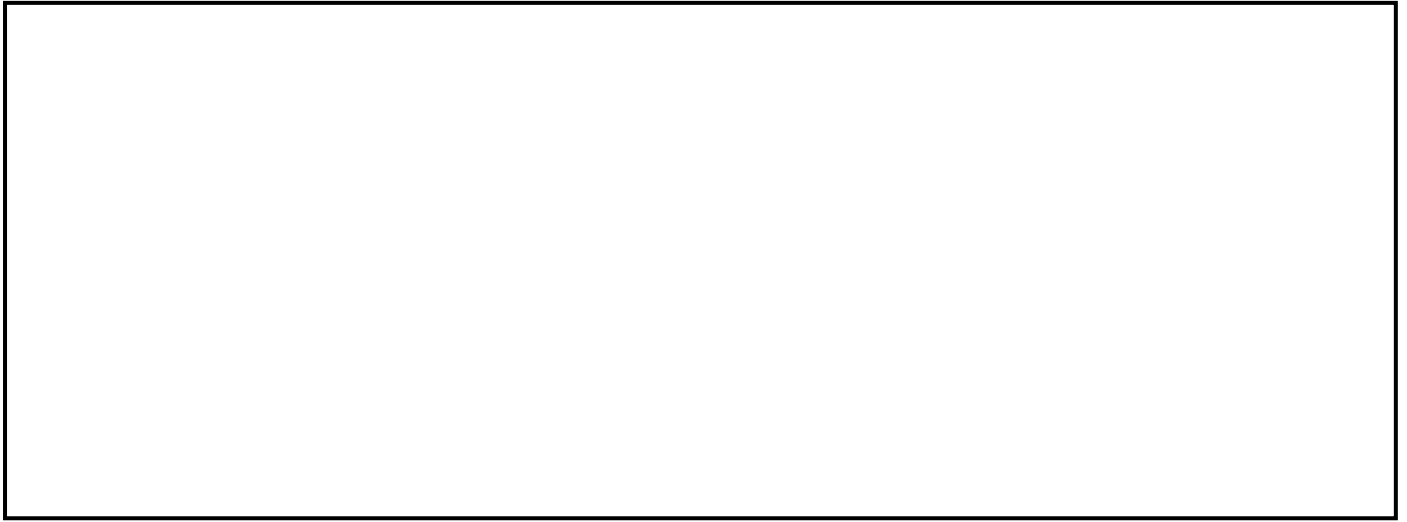


Section D: Long Answer ($4 \times 5 = 20$ marks)

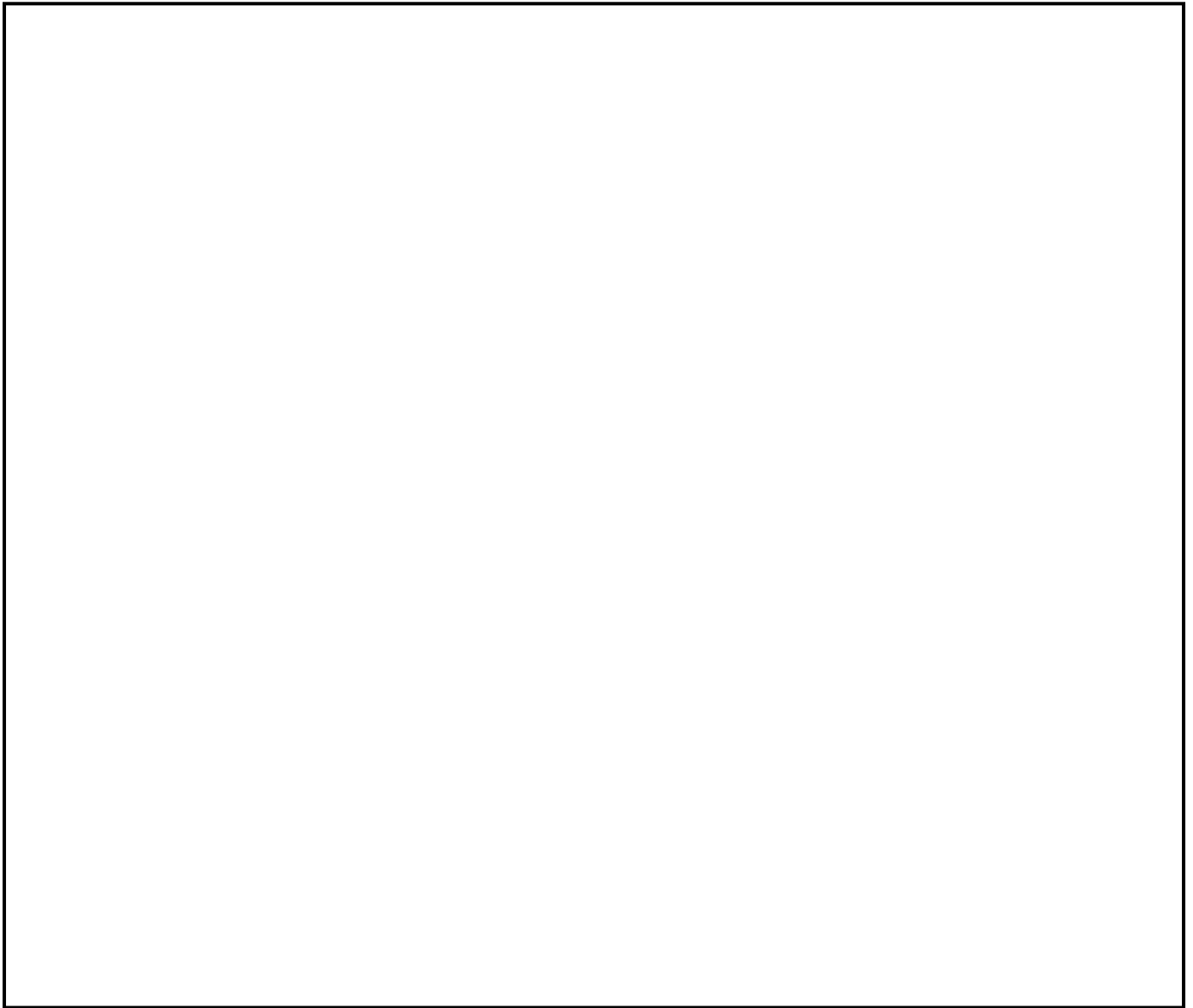
17. Construct a rectangle in which one of the diagonals divides the opposite angles into 30° and 60° . Also write step of construction.

18. Construct a rectangle of sides 8 cm and 4 cm. construct a square inside, rectangle, such that the centre of the square is the same as the centre of the rectangle.

19. Construct a rectangle and divide it into four equal smaller squares.

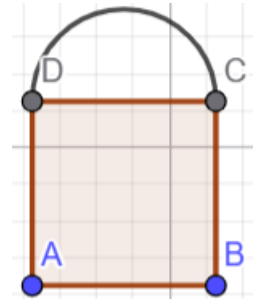


20. Construct a semicircle on diagonal of rectangle of side 8cm .



Case Study Based Questions ($2 \times 4 = 8$ marks)

21. A family is building a new house and wants a decorative entrance gate. The architect designs the gate in the shape shown in the figure: a square topped with a semicircle. To present the design to the family, a scale model of the gate is to be constructed using geometric instruments. The length of side square portion 4m. A semicircle is drawn to form the upper curved part of the gate.



Q. a) Identify the geometric shapes used in the gate design.

Qb) Name the line segment that acts as the diameter of the semicircle.

Qc) Using a scale of **1 cm = 1 m**, construct the model of the gate with a ruler and compass.

Qd). Write the steps of construction.

22. For a festival, Meera creates a rangoli using two concentric circles. The inner circle has diameter **36 cm** and the outer circle has diameter **70 cm**.

Qa) Which tool is used to make rangoli.

Qb) What is the radius of inner and outer circle.

Qc) Construct the rangoli with the help of compass.

Self Assessment:

I understood all the concepts

☐ Yes

☐ No

I need more practice

☐ Yes

□ No

Name of Concepts having doubts/Not Cleared: _____

Parent's Assessment:

My ward understood all the concepts

☐ Yes☐ No

He/She need more practice

☐ Yes

☐ No

Name of Concepts having doubts/Not Cleared:

Signature of Parent:

Teacher's Assessment

--

Answers of Worksheet 1:

Q.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ANS	a	c	b°	c	a	c	c	d	b	b	c	b	c	b	b	c
Q N	17	18	19	20												
ANS	c	b	a	b												

Answers of Worksheet 2:

Q N	1	2	3	4	5	6	7	8
ANS					4.5			
Q N	9	10	11	12	13	14	15	16
ANS		4						
Q N	17	18	19	20	21	22		
ANS					Square, semicircle b) DC	a)compass b) 18cm,35cm		