# Practice Worksheet: Intersection of Diagonals

## Section A: Multiple Choice

**1.** What is the intersection point of the diagonals of a rectangle?

A. One of the corners
B) B. The midpoint of one of the sides
C) C. The midpoint of one of the diagonals
D) D. The center of the rectangle

**2.** What is the name of the point where the diagonals of a rectangle intersect?

A. Corner point
B) B. Midpoint
C) C. Intersection point
D) D. Vertex

**3.** Which of the following is a property of the intersection of diagonals of a rectangle?

A. They intersect at a corner point
B) B. They intersect at the midpoint of one of the sides
C) C. They intersect at the midpoint of one of the diagonals
D) D. They do not intersect

**4.** What is the significance of the intersection point of the diagonals of a rectangle?

A. It is the center of the rectangle
B) B. It is the midpoint of one of the sides
C) C. It is the midpoint of one of the diagonals
D) D. It is one of the corners

**5.** Which of the following is a characteristic of the intersection of diagonals of a rectangle?

A. It is a corner point
B) B. It is the midpoint of one of the sides
C) C. It is the midpoint of one of the diagonals
D) D. It is the center of the rectangle

## Section B: Short Answer

**6.** Explain why the diagonals of a rectangle intersect at their midpoints.

**7.** What is the name of the point where the diagonals of a rectangle intersect?

**8.** Draw a diagram of a rectangle and label the intersection point of its diagonals.

**9.** What is the significance of the intersection point of the diagonals of a rectangle?

**10.** Explain why the intersection point of the diagonals of a rectangle is the midpoint of one of the diagonals.

## Section C: Application Problems

**11.** In a rectangle with a length of 10 cm and a width of 8 cm, find the coordinates of the intersection point of its diagonals if the rectangle is placed in a coordinate plane with its bottom left corner at the origin.

**12.** A rectangle has a length of 15 cm and a width of 12 cm. If the intersection point of its diagonals is (3, 4), find the coordinates of the bottom left corner of the rectangle.

**13.** In a rectangle with a length of 20 cm and a width of 15 cm, find the length of the diagonal that passes through the intersection point of the diagonals.

**14.** A rectangle has a length of 18 cm and a width of 12 cm. If the intersection point of its diagonals is (4, 3), find the area of the rectangle.

**15.** In a rectangle with a length of 25 cm and a width of 20 cm, find the coordinates of the intersection point of its diagonals if the rectangle is placed in a coordinate plane with its bottom left corner at the origin.

# Answer Key

**1:** C. The midpoint of one of the diagonals - The diagonals of a rectangle always intersect at their midpoints.

**2:** B. Midpoint - The diagonals of a rectangle always intersect at their midpoints.

**3:** C. They intersect at the midpoint of one of the diagonals - The diagonals of a rectangle always intersect at their midpoints.

**4:** C. It is the midpoint of one of the diagonals - The diagonals of a rectangle always intersect at their midpoints.

**5:** C. It is the midpoint of one of the diagonals - The diagonals of a rectangle always intersect at their midpoints.

**6:** The diagonals of a rectangle intersect at their midpoints because they are equal in length and bisect each other.

**7:** Midpoint

**8:** A diagram of a rectangle with the intersection point of its diagonals labeled.

**9:** The intersection point of the diagonals of a rectangle is the midpoint of one of the diagonals and is significant because it divides the diagonals into two equal parts.

**10:** The intersection point of the diagonals of a rectangle is the midpoint of one of the diagonals because it is the point where the diagonals bisect each other.

**11:** The coordinates of the intersection point of the diagonals are (4, 6).

**12:** The coordinates of the bottom left corner of the rectangle are (-3, -4).

**13:** The length of the diagonal that passes through the intersection point of the diagonals is 25 cm.

**14:** The area of the rectangle is 216 square cm.

**15:** The coordinates of the intersection point of the diagonals are (10, 12).