

Notes #10 ~ Sect. 11.3: The Midpoint Formula

Midpoint Formula:

The midpoint M of a line segment with endpoints $A(x_1, y_1)$ & $B(x_2, y_2)$ is

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

Ex. 1: Find the midpoint of each segment with the given endpoints.

a) $C(-3, 7)$ & $D(5, 2)$

b) $P(-3, -1)$ & $Q(5, 2)$

Diameter of a circle: The distance from one side of a circle to the other through its center.

The midpoint of the diameter is the center of the circle.

Ex. 2: \overline{RS} is a diameter of a circle. The coordinates of R are $(-3, 5)$ and the coordinates of S are $(4, -3)$ Find the center of the circle.