

**PROBLEM-OF-THE-DAY: ALGEBRA 1****WEEK:** January 8 to January 11**DAY:** Thursday

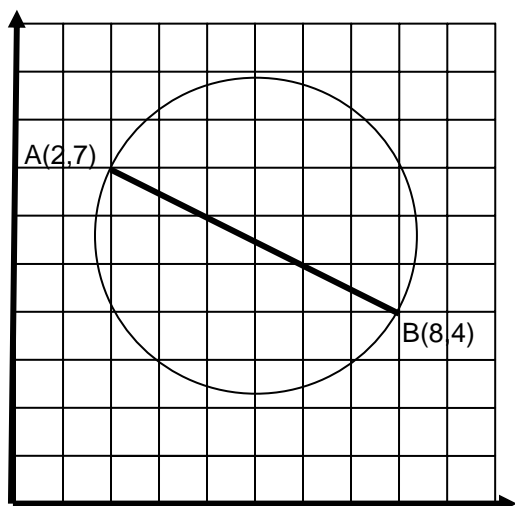
**RISD Objective:** Given two points in the coordinate plane, students will be able to determine the coordinates of the midpoint of the segment connecting the points, the slope of the line that passes through the points, and the distance between the points.

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**PROBLEM #80**

**Joe wants to find the coordinates of the center of the circle shown below**

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

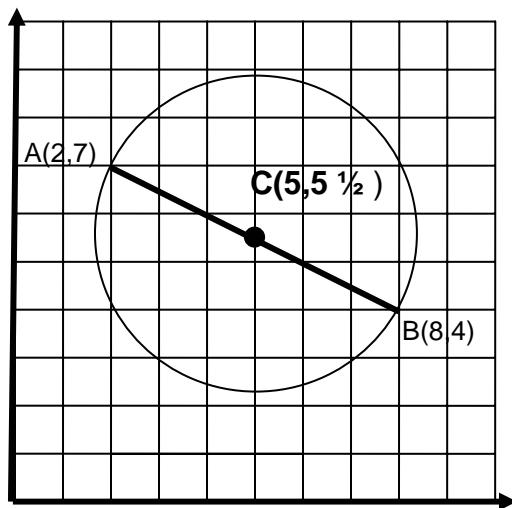


## MODEL SOLUTION #80

The midpoint formula is  $M = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

The midpoint of  $AB$  will be at the center of the circle.

Center of Circle = Midpoint of  $AB = \left( \frac{2+8}{2}, \frac{7+4}{2} \right) = \left( \frac{10}{2}, \frac{11}{2} \right) = \left( 5, 5\frac{1}{2} \right)$



So the center of the circle is  $\left( 5, 5\frac{1}{2} \right)$ .