

explain how the distance formula and the equation of a circle are related

Solution:

Distance formula:

$$d^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$$

Equation of circle:

$$R^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$$

(x_1, y_1) – *coordinates of center of circle*

As we can see, distance formula and equation of circle are similar. That's because equation of circle shows how far from the center of the circle all points of the circle are located.