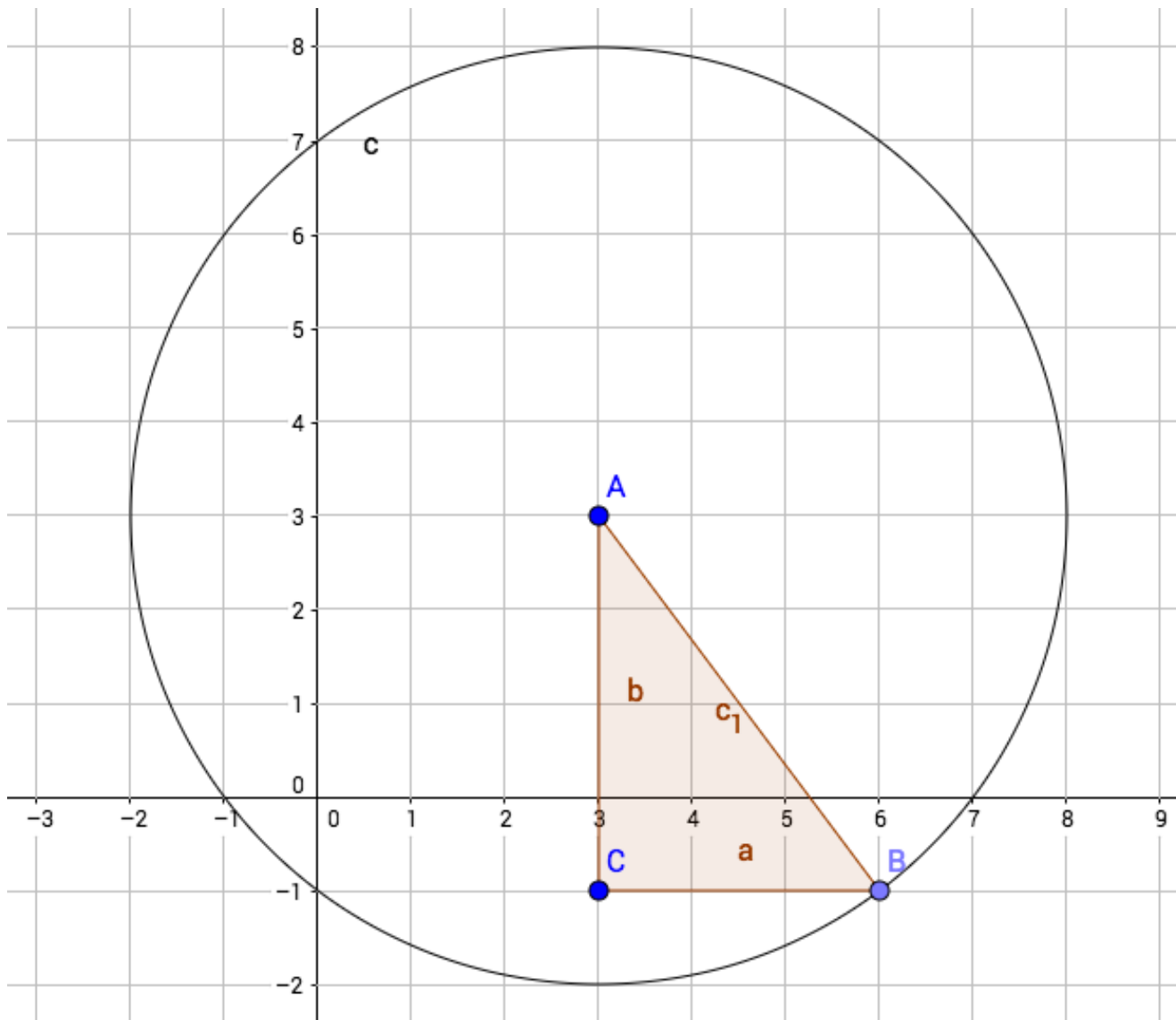


Writing the Equation of Circles

The standard equation of a circle with center (h,k) and radius r :

Prove that the standard equation of a circle makes sense.



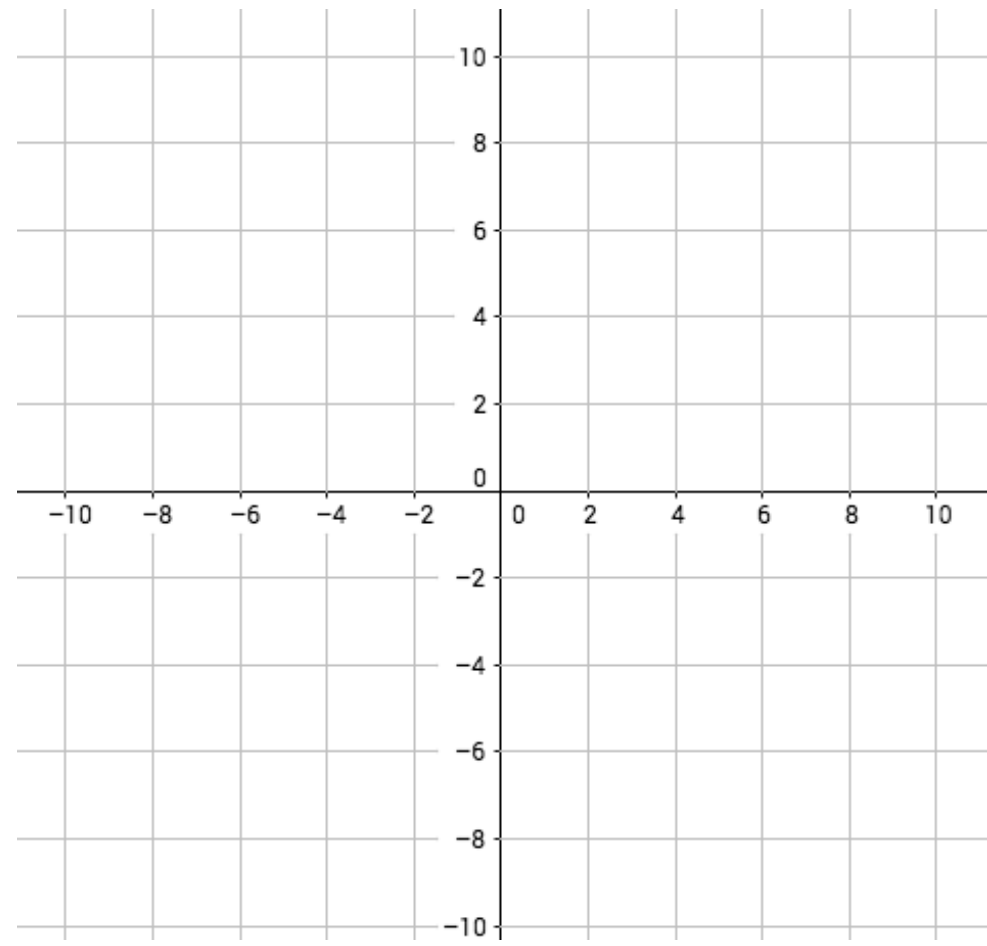
Write the equation of the circle with a center at $(1, 4)$ and contains the point $(3, 4)$

When earthquakes hit, the areas that are affected is in the shape of a circle, with the epicenter at the center of that circle. A seismograph is used to determine the distance to the epicenter of an earthquake. A seismograph is located at points A, B, and C. Determine the location of the epicenter of an earthquake given these seismographic readings.

The epicenter is 7 km away from $A(-2, 2.5)$

The epicenter is 4 km away from $B(4, 6)$

The epicenter is 5 km away from $C(3, -2.5)$



Answer the questions on each page in your packet, support your answers by referencing theorems and drawing diagrams.