

Proving Points on a Circle Notes and Practice

1. Proof #1. Prove or disprove that the point $(1, \sqrt{3})$ lies on the circle centered at the origin and passing through the point $(0, 2)$.
 - a. What do we need to show in order to prove or disprove this statement?

 - b. Write an equation for the circle described in the problem.

 - c. Substitute the point in for the equation and comment on the results. Did you prove the statement or disprove it?

Guided Practice:

2.
 - a. Write the equation of a circle centered at $(5, -2)$
 - b. The equation of the circle passes through the point $(6, 5)$. Substitute the values into x and y to find the radius.

 - c. Prove or disprove that the point $A(10, 3)$ lies on a circle centered at $C(5, -2)$ and passing through the point $B(6, 5)$.

WILSON!

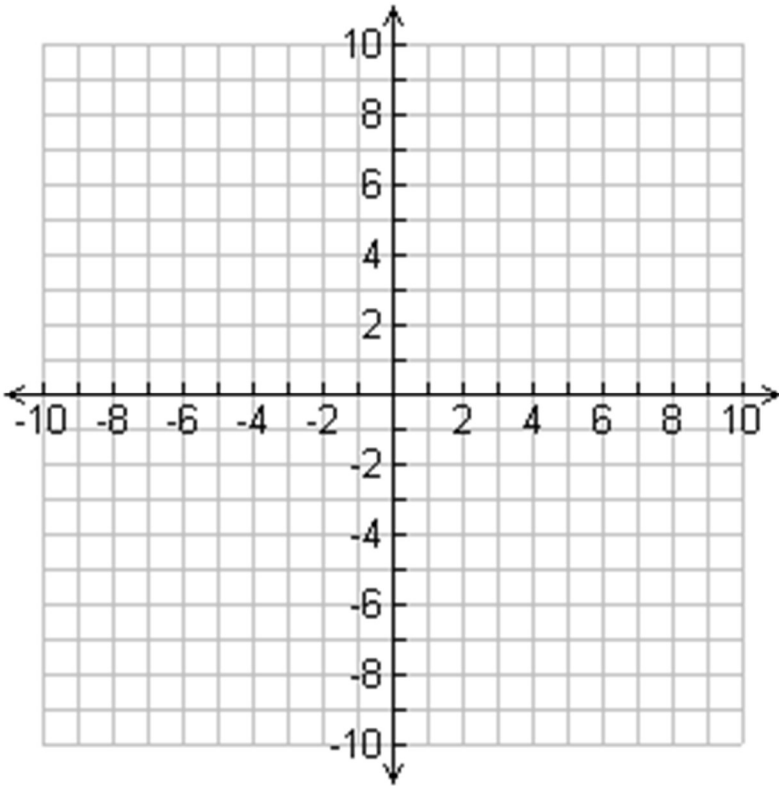
In order to get back to the raft, Tom Hanks is limited to swimming in the region given by the equation:

$$x^2 + y^2 + 4x + 8y + 1 = 0$$

- Graph the circle on the graph provided.

Will he be able to rescue Wilson if Wilson is floating at the point $(2, -2)$?

- Plot the point with your circle



What if Tom only has the energy to swim a total of 9 meters to rescue Wilson and get back to the boat? Will he be able to rescue Wilson? (think distance)