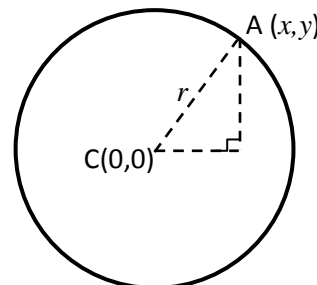


Geometry

Name: _____ Section: _____ Due Date: _____

HW: Bridge to Unit 11

Circle C with a center at $(0,0)$, radius r , and a point A (x,y) on the circle is drawn. A triangle is drawn inside the circle where the radius is the hypotenuse of the right triangle created by dropping a perpendicular segment to another radius as shown.



1. What is the length of the horizontal leg as a change in x values?

2. What is the length of the vertical leg as a change in y values?

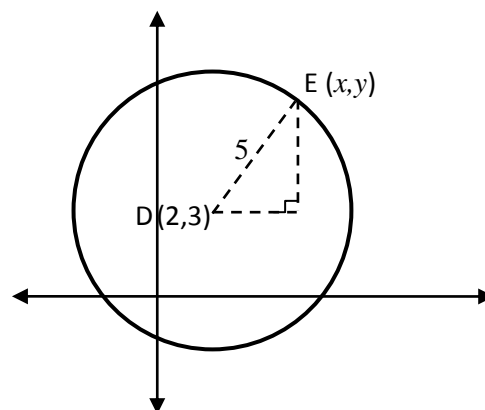
3. Write the Pythagorean Theorem: _____

4. Using the Pythagorean Theorem, plug in all your variables and known coordinate values. Do not simplify your answer. _____

5. How would you interpret your equation in question 4 using leg, leg, and radius?

6. Would this work for any point on this circle, not just point A? Why?

Now Circle D with a center at $(2,3)$, radius of 5, and a point E (x,y) is drawn. A triangle is drawn inside the circle where the radius is the hypotenuse of the right triangle created by dropping a perpendicular segment to another radius as shown.



7. Using the format you generated in question 4, generate the equation for Circle D by plugging in all your variables and known coordinate values. Do not simplify your answer.

Using these two examples, generate the general formula for a circle with a center (h,k) and a radius r using any point (x,y) on the circle (draw a picture if that will help you):
