Honors Algebra II

Notes Section 8.3

Graph and Write Equations of Circles

Circle: _____

Center: _____
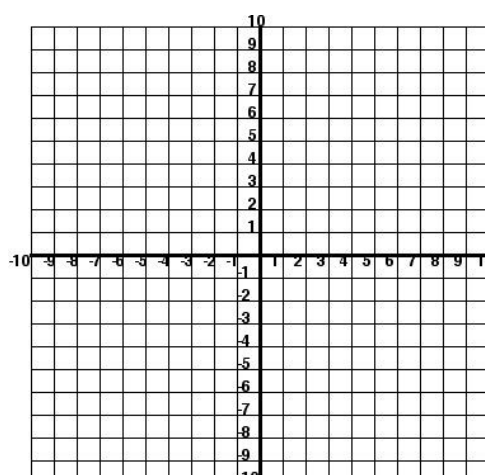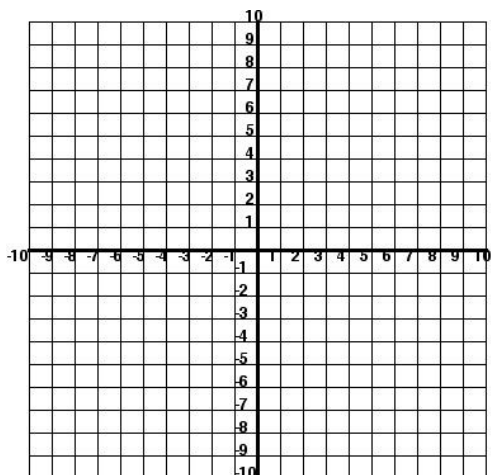
Radius: _____

Equation of a Circle: _____

EXAMPLE 1   Graph. Identify the radius of the circle.

a) $y^2 = -x^2 + 36$

b) $x^2 - 4 = -y^2$

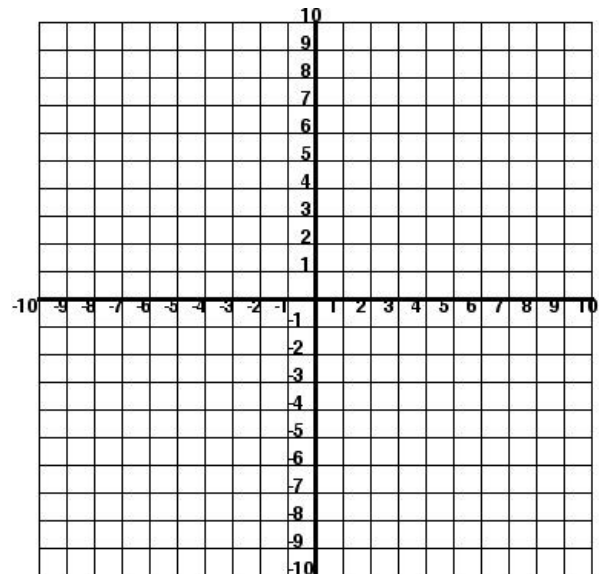**EXAMPLE 2**   The point (x,y) lies on a circle whose center is the origin. Write the standard form of the equation of the circle.

a) (2,-5)   b) (-4,7)

EXAMPLE 3   What is an equation of the line tangent to the circle $x^2 + y^2 = 13$ at (-3,2)?

EXAMPLE 4   A cellular phone tower services a 10 mile radius. You get a flat tire 4 miles east and 9 miles north of the tower. Are you in the tower's range?

EXAMPLE 5   Suppose that you fix your tire and then drive south. For how many more miles will you be in range of the tower?