Practice
Graphing: Equation of a Circle

Answer these problems, then check your answers using the key on the next page. If you missed something, look at the solutions after the answer key, and if you still don't understand, watch the review video again.

#1) If $(x-3)^2 + (y+5)^2 = 9$ is the equation of a circle, the coordinates of the center and the length of the radius are:

        a) center (-3, 5), radius = 9
        b) center (-3, 5), radius = 3
        c) center (3, -5), radius = 9
        d) center (3, -5), radius = 3

#2) Find the center and radius of this circle: $(x+10)^2 + (y+5)^2 = 16$

#3) What is the equation of a circle with center at (-2, 7) and radius = 9?

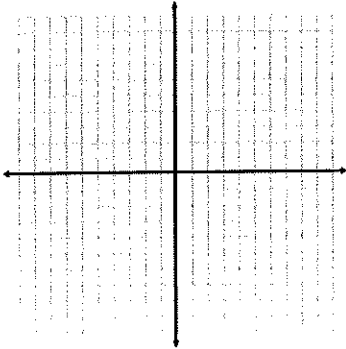#4) What is the equation of a circle with center at (0, -5) and radius = 4?

#5) What is the equation of a circle with center at (2, 0) and radius = 4?

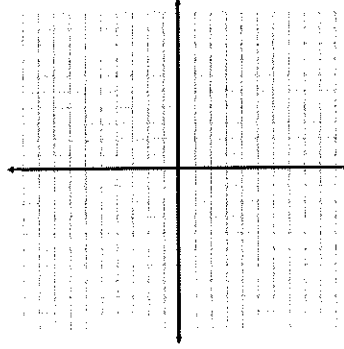#6) What is the equation of a circle with center at (0, 0) and radius = 4?

#7) What is the equation of a circle with center at (3, -4) and radius = $\sqrt{7}$?
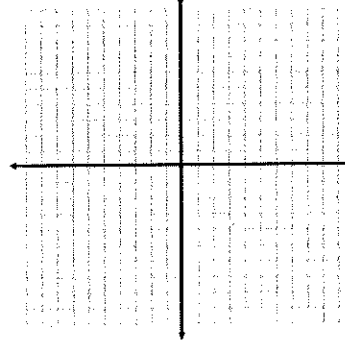
#8) Graph these circles:

$$(x-2)^2+(y+3)^2=36$$

$$x^2+(y-3)^2=4$$

$$x^2+y^2=12$$

Answers:

#1) d

#2) center: $(-10, -5)$
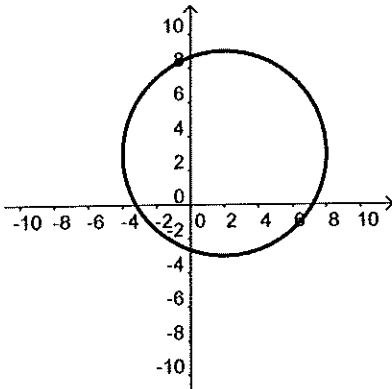Radius $= 4$

#3) $(x+2)^2 + (y-7)^2 = 81$

#4) $x^2 + (y+5)^2 = 16$
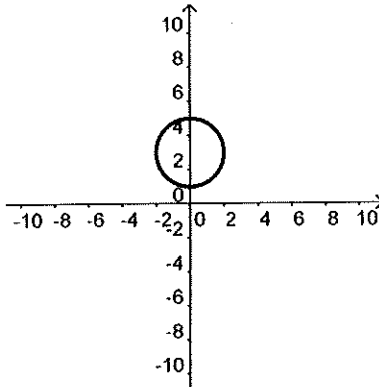
#5) $(x-2)^2 + y^2 = 16$
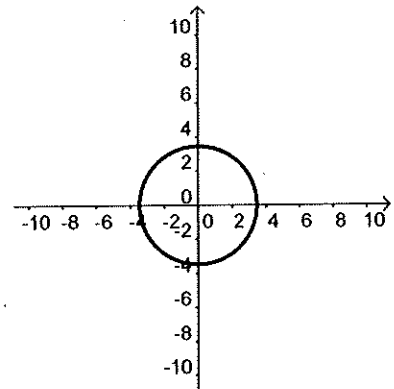
#6) $x^2 + y^2 = 16$

#7) $(x-3)^2 + (y+4)^2 = 7$

#8) $(x-2)^2 + (y+3)^2 = 36$ $x^2 + (y-3)^2 = 4$ $x^2 + y^2 = 12$

Solutions:

#1) If $(x-3)^2 + (y+5)^2 = 9$ is the equation of a circle, the coordinates of the center and the length of the radius are:

a) center (-3, 5), radius = 9
b) center (-3, 5), radius = 3
c) center (3, -5), radius = 9
d) center (3, -5), radius = 3

$= r^2$

Center $(3, -5)$

$r = 3$

#2) Find the center and radius of this circle: $(x+10)^2 + (y+5)^2 = 16$

Center : $(-10, -5)$

$r = 4$

#3) What is the equation of a circle with center at (-2, 7) and radius = 9?

$(x+2)^2 + (y-7)^2 = 81$

#4) What is the equation of a circle with center at (0, -5) and radius = 4?

$(x-0)^2 + (y+5)^2 = 16$

$x^2 + (y+5)^2 = 16$

#5) What is the equation of a circle with center at (2, 0) and radius = 4?

$(x-2)^2 + (y-0)^2 = 16$

$(x-2)^2 + y^2 = 16$

#6) What is the equation of a circle with center at (0, 0) and radius = 4?

$(x-0)^2 + (y-0)^2 = 16$

$x^2 + y^2 = 16$

#7) What is the equation of a circle with center at (3, -4) and radius = $\sqrt{7}$?
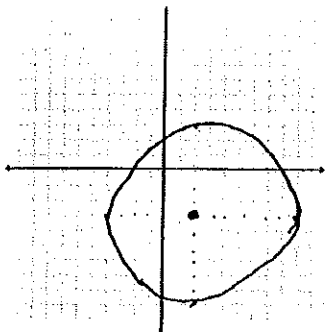
$(x-3)^2 + (y+4)^2 = (\sqrt{7})^2$

$(x-3)^2 + (y+4)^2 = 7$

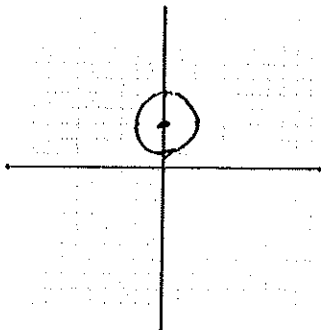#8) Graph these circles:

$$(x-2)^2 + (y+3)^2 = 36$$
center: $(2, -3)$
$r = 6$

$$x^2 + (y-3)^2 = 4$$
center: $(0, 3)$
$r = 2$

$$x^2 + y^2 = 12$$
center: $(0, 0)$
$r = \sqrt{12}$ (≈ 3.5)