8.9 Classwork: The equation for a circle

1. What is the equation of a circle with center $(5, 7)$ and radius $r = 3$?

2. What are the coordinates of the center and the length of the radius of the circle whose equation is $(x - 3)^2 + y^2 = 16$?

3. What is the equation of a circle with center $(-3, 7)$ and radius $r = 4$?

4. The equation of a cirle is $x^2 + 8x + y^2 - 12y = 144$. What are the coordinates of the center and the length of the radius of the circle?

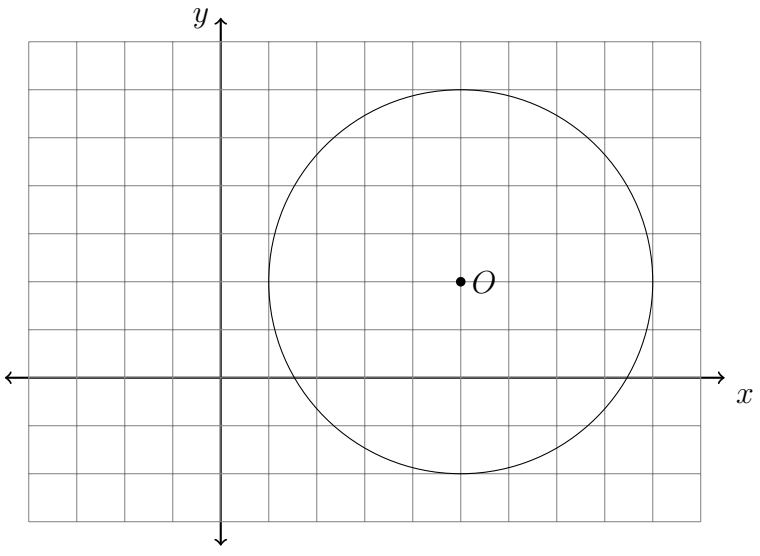
   (a) center $(4, -6)$ and radius 12

   (b) center $(-4, 6)$ and radius 12

   (c) center $(4, -6)$ and radius 14

   (d) center $(-4, 6)$ and radius 14

5. What is an equation of circle O shown in the graph below?



   (a) $x^2 + 10x + y^2 + 4y = -13$

   (b) $x^2 - 10x + y^2 - 4y = -13$

   (c) $x^2 + 10x + y^2 + 4y = -25$

   (d) $x^2 - 10x + y^2 - 4y = -25$

6. What are the coordinates of the center and the length of the radius of the circle whose equation is $x^2 + y^2 = 8x - 6y + 39$?

   (a) center $(-4, 3)$ and radius 64

   (b) center $(4, -3)$ and radius 64

   (c) center $(-4, 3)$ and radius 8

   (d) center $(4, -3)$ and radius 8

7. What is an equation of a circle whose center is (1,4) and diameter is 10?

   (a) $x^2 - 2x + y^2 - 8y = 8$

   (b) $x^2 + 2x + y^2 + 8y = 8$

   (c) $x^2 - 2x + y^2 - 8y = 83$

   (d) $x^2 + 2x + y^2 + 8y = 83$

8. The equation of a cirle is $x^2 + y^2 + 4x - 8y = -16$. The statement that best describes circle O is the

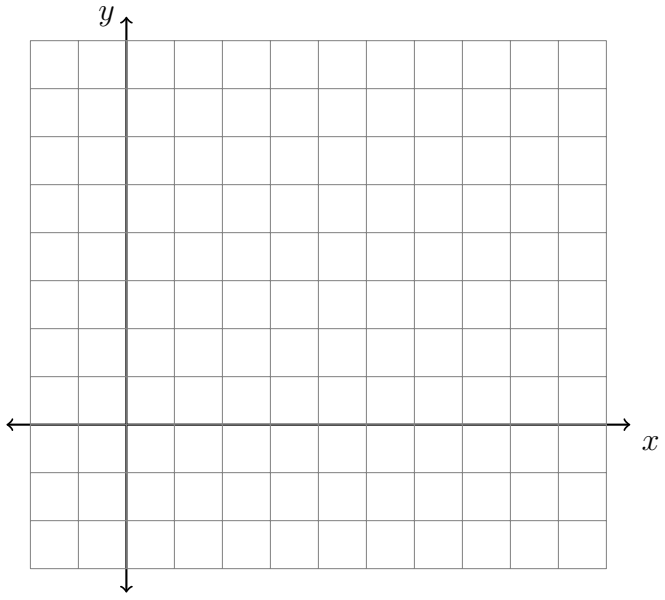
   (a) center is $(2, -4)$ and is tangent to the x-axis

   (b) center is $(2, -4)$ and is tangent to the y-axis

   (c) center is $(-2, 4)$ and is tangent to the x-axis

   (d) center is $(-2, 4)$ and is tangent to the y-axis

9. What is the equation of a circle whose diameter is $\overline{AB}$ with $A(2, -1)$ and $B(8, 7)$?

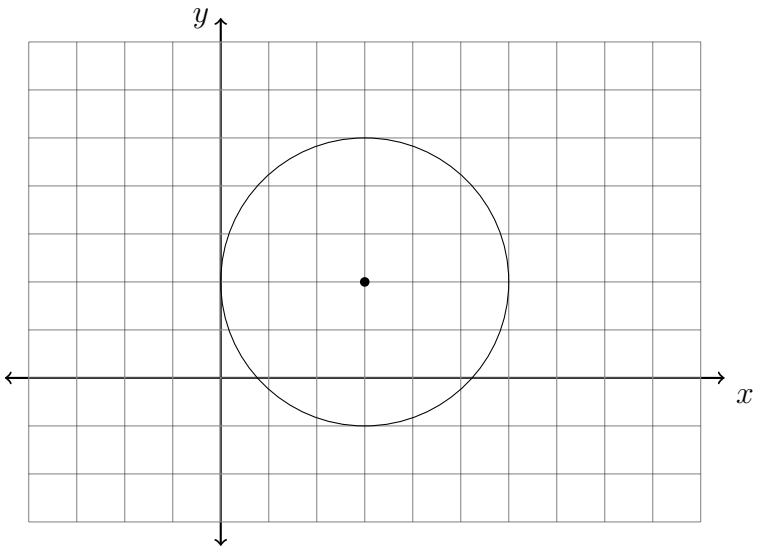


8.9 Exit Note: The equation for a circle

10. What are the coordinates of the center and the length of the radius of the circle whose equation is $(x+8)^2+(y-3)^2=4$?

11. What is the equation of a circle with center $(1,-9)$ and radius $r=8$?

12. What is an equation of circle O shown in the graph below?



13. The equation of a cirle is $x^2+y^2-6x+2y=6$. What are the coordinates of the center and the length of the radius of the circle?

    (a) center $(-3,1)$ and radius 4

    (b) center $(3,-1)$ and radius 4

    (c) center $(-3,1)$ and radius 16

    (d) center $(3,-1)$ and radius 16