

Find the center and radius of the circle.

1. $x^2 + y^2 = 36$

2. $(x - 2)^2 + (y - 7)^2 = 49$

3. $(x + 1)^2 + (y + 6)^2 = 16$

4. $(x + 3)^2 + (y - 11)^2 = 12$

Write the standard equation of each circle.

5. center $(0,0)$: $r = 7$

6. center $(4,3)$: $r = 8$

7. center $(5,3)$: $r = 2$

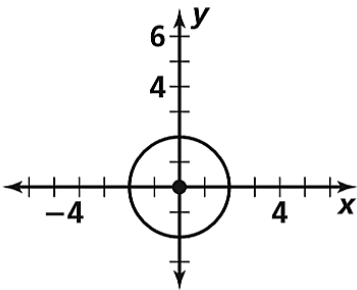
8. center $(-5,4)$: $r = \frac{1}{2}$

9. center $(-2, -5)$: $r = \sqrt{2}$

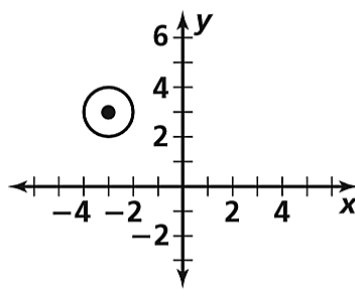
10. center $(-1,6)$: $r = \sqrt{5}$

Write an equation for each circle.

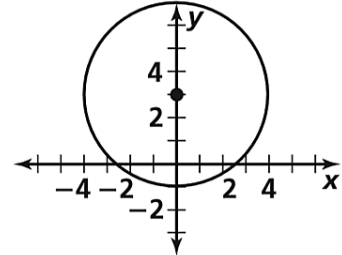
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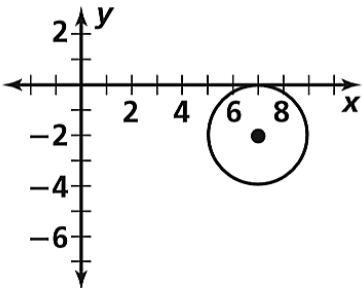
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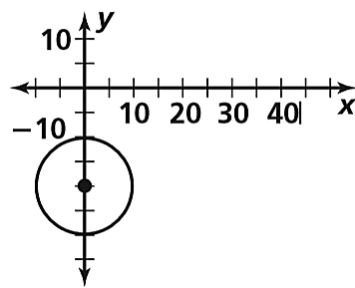
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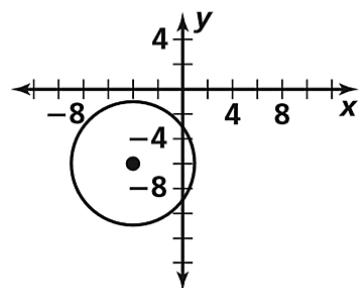
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15.

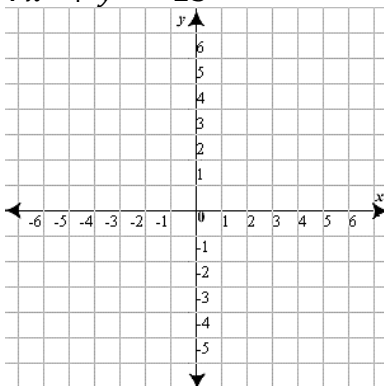


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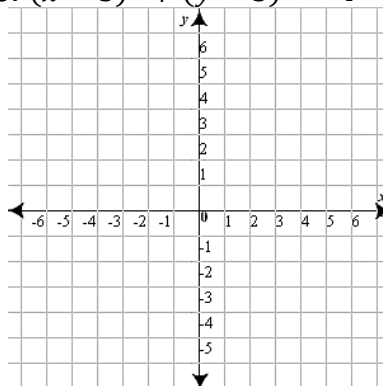


Graph each circle.

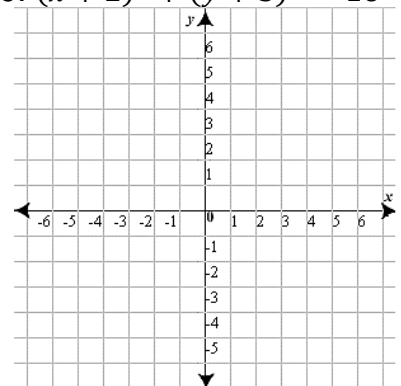
17. $x^2 + y^2 = 25$



18. $(x - 3)^2 + (y - 5)^2 = 4$



19. $(x + 2)^2 + (y + 3)^2 = 16$



Write an equation for each circle with the given center that passes through the given point.

20. center $(0,0)$: point $(3,4)$

21. center $(5,9)$: point $(2,9)$

22. center $(-4,-3)$: point $(2,2)$

23. center $(7,-2)$: point $(-1,-6)$

Write the standard form of the equation for the circle. State the center and radius.

24. $x^2 + 2x + y^2 - 10y + 10 = 0$

25. $x^2 + y^2 - 4x + 6y + 9 = 0$

26. $7x^2 + 7y^2 - 28y + 14 = 0$

27. $3x^2 + 3y^2 + 18x + 6y = 0$

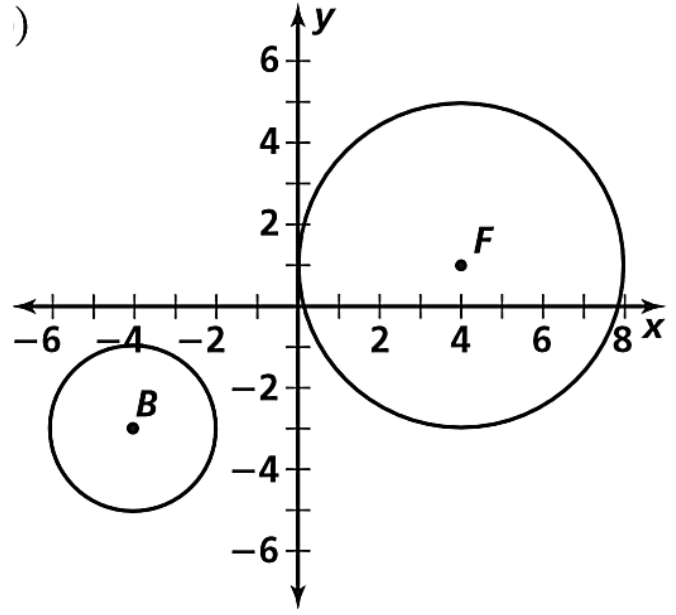
Rewrite the equation from general form to standard form.

28. $(x + 1)^2 + (y - 2)^2 = 9$

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

Write an equation that describes the position and range of each circle.

30. $\odot B$



31. $\odot F$