

**LESSON 10.7 Practice A**  
For use with pages 699-705

Center (0,0)  
 $x^2 + y^2 = r^2$

Center (h,k)  
 $(x-h)^2 + (y-k)^2 = r^2$

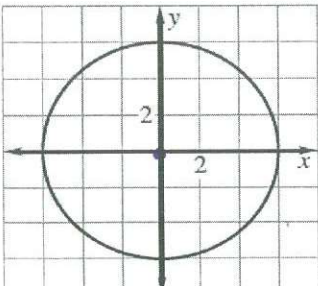
Match the equation of a circle with its description.

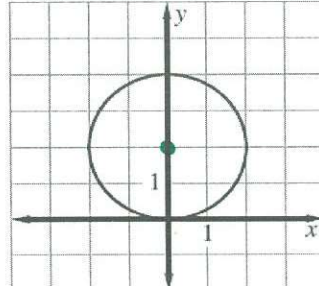
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|--------------------------------------|--|
| <b>C</b> 1. $x^2 + y^2 = 4$          | <b>A.</b> center $(-1, 4)$ , radius 4  |
| <b>F</b> 2. $x^2 + y^2 = 9$          | <b>B.</b> center $(-2, -3)$ , radius 3 |
| <b>A</b> 3. $(x+1)^2 + (y-4)^2 = 16$ | <b>C.</b> center $(0, 0)$ , radius 2   |
| <b>B</b> 4. $(x+2)^2 + (y+3)^2 = 9$  | <b>D.</b> center $(2, 5)$ , radius 3   |
| <b>E</b> 5. $(x+3)^2 + (y-5)^2 = 16$ | <b>E.</b> center $(-3, 5)$ , radius 4  |
| <b>D</b> 6. $(x-2)^2 + (y-5)^2 = 9$  | <b>F.</b> center $(0, 0)$ , radius 3   |

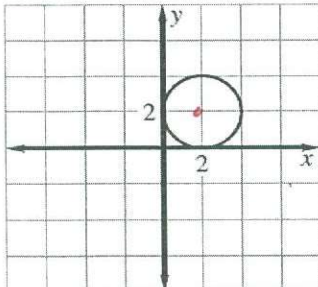
Give the center and radius of the circle.

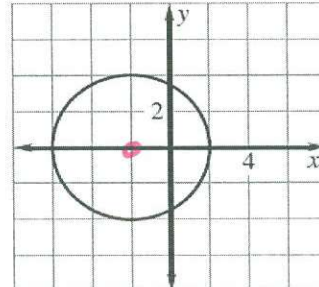
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|---|--|
| 7. $x^2 + y^2 = 25$ (0,0), r=5          | 8. $x^2 + (y-4)^2 = 9$ (0,4), r=3        |
| 9. $(x-5)^2 + y^2 = 16$ (5,0), r=4      | 10. $(x+1)^2 + (y-1)^2 = 4$ (-1,1), r=2  |
| 11. $(x-2)^2 + (y-4)^2 = 16$ (2,4), r=4 | 12. $(x+4)^2 + (y-2)^2 = 25$ (-4,2), r=5 |

Write the standard equation of the circle.

13.  (0,0) r=3  
 $x^2 + y^2 = 9$

14.  (0,2) r=2  
 $x^2 + (y-2)^2 = 4$

15.  (1,1) r=1  
 $(x-1)^2 + (y-1)^2 = 1$

16.  (-1,0) r=2  
 $(x+1)^2 + y^2 = 4$

Write the standard equation of the circle with the given center and radius.

- |   |  |
|---|--|
| 17. Center (0, 0), radius 2<br>$x^2 + y^2 = 4$      | 18. Center (0, 3), radius 2<br>$x^2 + (y-3)^2 = 4$       |
| 21. Center (0, 9), radius 7<br>$x^2 + (y-9)^2 = 49$ | 22. Center (-3, 7), radius 6<br>$(x+3)^2 + (y-7)^2 = 36$ |

Use the given information to write the standard equation of the circle.

25. The center is (0, 0), and a point on the circle is (7, 0).  $r = 7$

$$x^2 + y^2 = 49$$

27. The center is (2, 4), and a point on the circle is (2, 7).  $r = 3$

$$(x - 2)^2 + (y - 4)^2 = 9$$

Determine the diameter of the circle with the given equation.

29.  $x^2 + y^2 = 9$

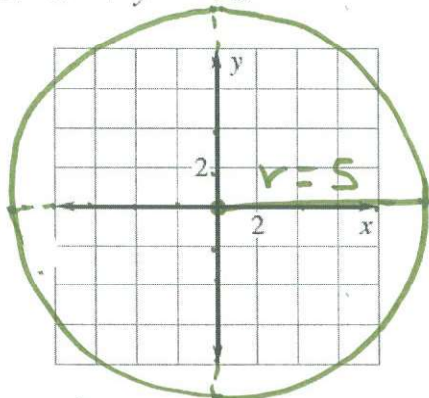
$r = 3$     $d = 6$

30.  $(x + 2)^2 + (y + 1)^2 = 1$

$r = 1$     $d = 2$

Graph the equation.

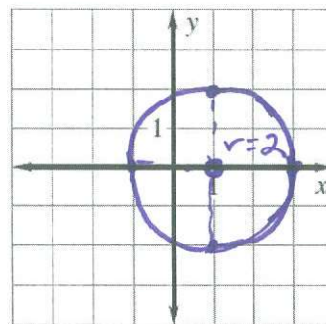
33.  $x^2 + y^2 = 25$



(0, 0)  
 $r = 5$

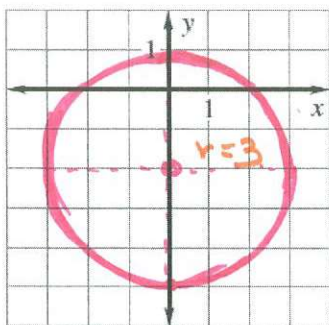
34.  $(x - 1)^2 + y^2 = 4$

$r = 2$



(1, 0)

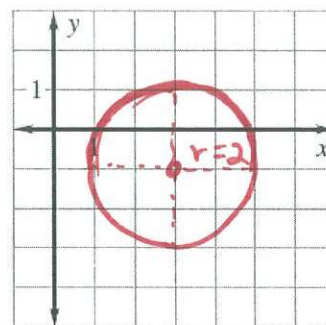
35.  $x^2 + (y + 2)^2 = 9$



(0, -2)  
 $r = 3$

36.  $(x - 3)^2 + (y + 1)^2 = 4$

$r = 2$   
(3, -1)



Determine whether the point lies on the circle described by the equation

$(x - 2)^2 + (y - 6)^2 = 25$ .

37.  $(2, 6)$     $(x - 2)^2 + (y - 6)^2 = 25$   
 $(2 - 2)^2 + (6 - 6)^2 = 25$

$0^2 + 0^2 \neq 25$

(2, 6) is the center

The point does not lie on the circle described by  $(x - 2)^2 + (y - 6)^2 = 25$ .

39.  $(4, 2)$

$(x - 2)^2 + (y - 6)^2 = 25$

$(4 - 2)^2 + (2 - 6)^2 = 25$

$2^2 + (-4)^2 = 25$

$4 + 16 \neq 25$

$20 \neq 25$