SM2 A12.1 Center-Radius Form of a Circle Name:_____ Period:_____

Directions : *Find the center and the radius of the circle with the given equation.*

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

Center:

Radius:

Describe the transformations from $x^2+y^2=1$

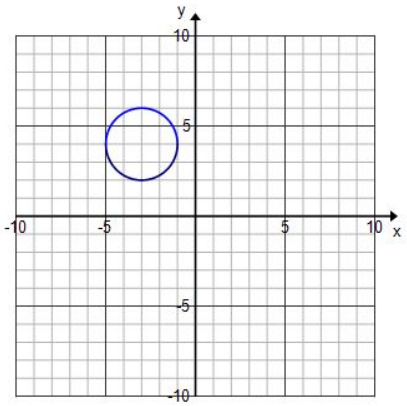
Write the equation of the circle with the given information.

2. Center: (-4, 6); Radius: 7

Equation:

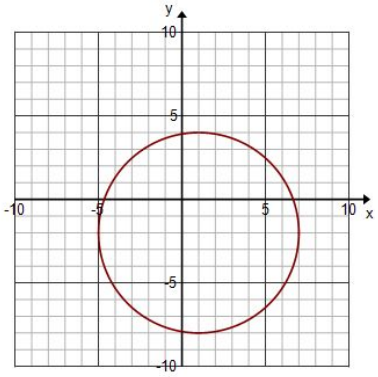
Describe the transformations from
$x^2+y^2=1$

3. *Write the equation of the circle with the given information.*



Describe the transformations from
$x^2+y^2=1$

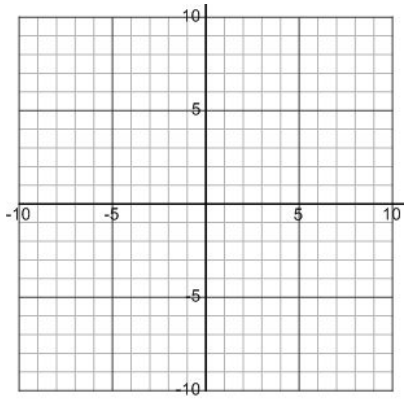
4. *Write the equation of the circle with the given information.*



Describe the transformations from
$x^2+y^2=4$

5. Graph : $(x)^2+(y-8)^2=1$

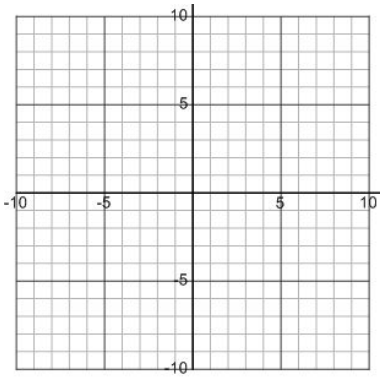
Center: Radius:



Describe the transformations from
$x^2+y^2=16$

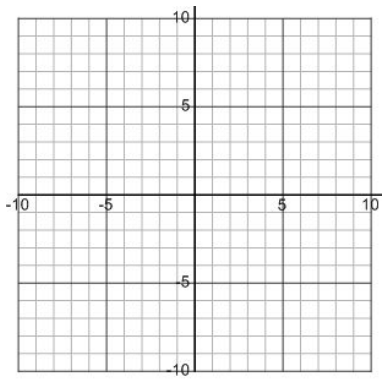
6. Start with the circle $(x)^2+(y)^2=100$

Move it Right 3 and up 4 and Dilate by a factor of ½.
Equation of Translated Circle



7. Start with the circle
$(x)^2 + (y)^2 = 4$

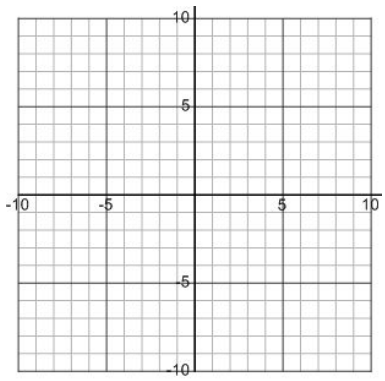
Move it Left 5 and Dilate by a factor of 3



Equation of Translated Circle

8. Start with the circle
$(x)^2 + (y)^2 = 9$

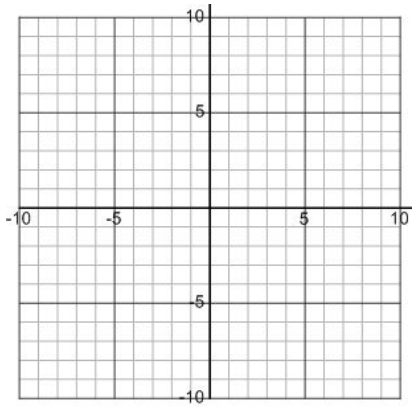
Move it Right 1, Down 2 and Dilate by a factor of 2



Equation of Translated Circle

9. $(x+4)^2 + (y-2)^2 = 25$

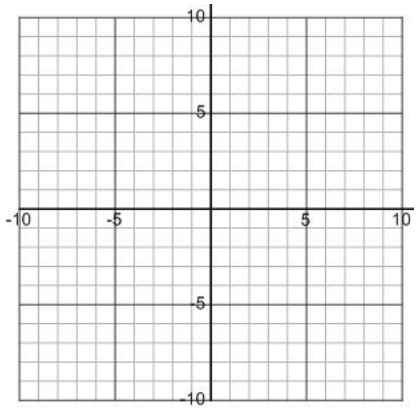
Center: Radius:



Describe the transformations from
$x^2 + y^2 = 1$

10. $(x-5)^2 + (y-3)^2 = 9$

Center: Radius:



Describe the transformations from
$x^2 + y^2 = 1$

Directions (#11-14): *Write the equation of the circle in Standard Form. Then, identify the center and the radius.*

11. Write the equation $x^2 - 14x + y^2 + 10y = 7$ in

Center-Radius Form of a Circle.

$x^2 - 14x \quad + y^2 + 10y \quad = 7$

Center-Radius Form: $(x \quad)^2 + (y \quad)^2 =$

Center: Radius:

12.Write the equation $x^2 + 2x + y^2 - 4y = 31$ in

Center-Radius Form of a Circle.

$x^2 + 2x \quad + y^2 - 4y \quad = 31$

Center-Radius Form: $(x \quad)^2 + (y \quad)^2 =$

Center: Radius:

13. Write the equation $x^2 + y^2 - 12y = -11$ in Center-Radius Form of a Circle.

$x^2 + y^2 - 12y \quad = -11$

Center-Radius Form: $(x \quad)^2 + (y \quad)^2 =$

Center: Radius:

14. Write the equation $x^2 + 6x + y^2 - 4y = -12$ in Center-Radius Form of a Circle.

$x^2 + 6x \quad + y^2 - 4y \quad = -12$

Center-Radius Form: $(x \quad)^2 + (y \quad)^2 =$

Center: Radius:

REVIEW (#15-20): *Follow the directions for each problem.*

15.

1

The general form for a growth or decay exponential function is $y = a \cdot b^x$, where $a > 0$.

Which of the following functions represents exponential growth?

Ⓐ $y = \frac{1}{3} \cdot 2^x$

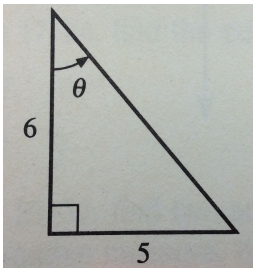
Ⓑ $y = 3 \cdot 2^{-x}$

Ⓒ $y = 2 \cdot \left(\frac{1}{3}\right)^x$

Ⓓ $y = 3 \cdot \left(\frac{1}{2}\right)^x$

16. If the $\cos\theta = \frac{5}{13}$, *find* $\sin\theta$.

21. Find the measure of the angle.



17. Write the quadratic equation in Vertex Form.

Standard Form: $y = 5x^2 - 15x - 1$

Vertex Form:

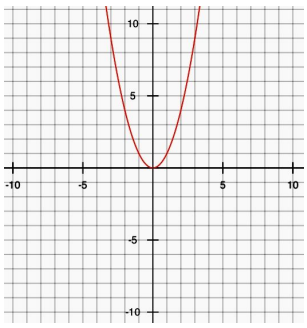
18. Write the quadratic equation in Standard Form of a Quadratic.

Vertex Form: $y = 5(x-1)^2 - 6$

Standard Form:

19. Given the function, $f(x)$, on the graph below. Sketch the graph of $f(x-5)$ and describe the transformation.

20. If f(x)= $|x|$, *graph* $f(x-1)+3$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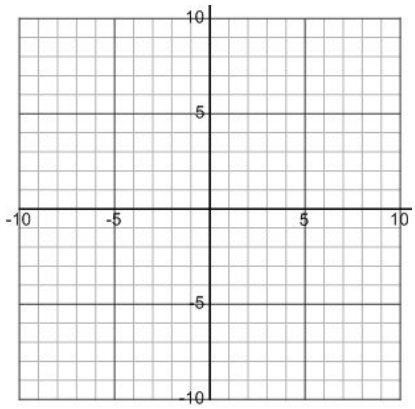
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