SM2 12.4 Graphing Circles

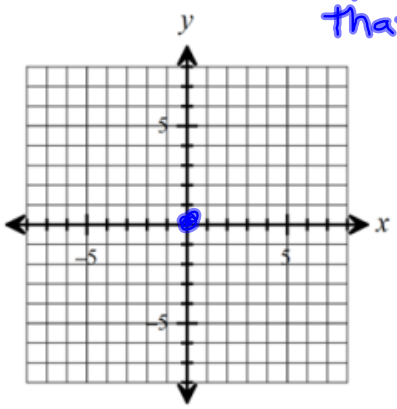
Identify the center and radius of each circle. Round the radius to the nearest tenth is necessary. Sketch the graph.

Formula for circle when center is (0,0) is $x^2+y^2=r^2$

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

Center: (0,0)

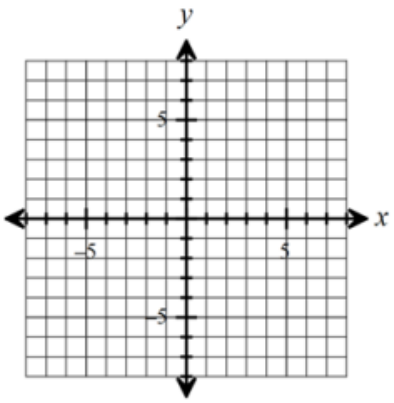
Radius: $r=\sqrt{9}$ what is $\sqrt{9}$? that is the radius



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

Center: _____

Radius: _____

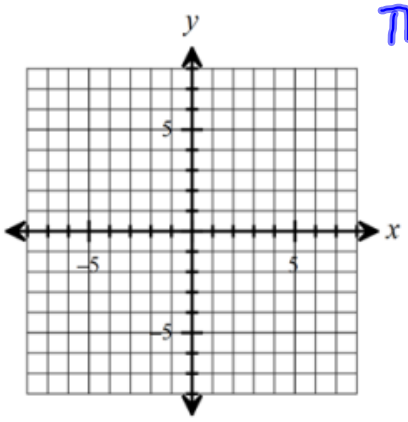


3. $x^2 + y^2 = 25$

Center: _____

Radius: _____ ← $\sqrt{25}$

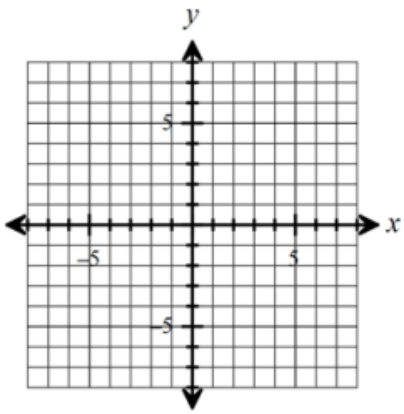
what is $\sqrt{25}$? That is radius



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

Center: _____

Radius: _____



Formula when circle center is not (0,0).

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

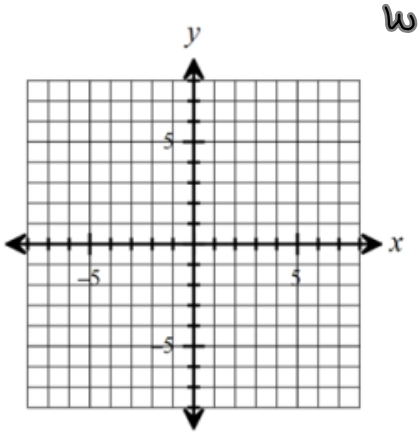
5. $(x+3)^2+(y-2)^2=16$

Center: (-3, 2)

center is h,k
what is (h,k)

Radius: 4

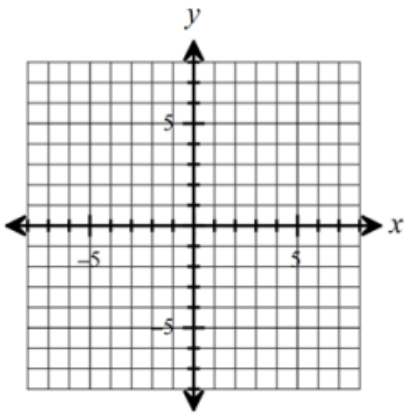
radius is $\sqrt{16}$.
what is $\sqrt{16}$?



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

Center: _____

Radius: _____

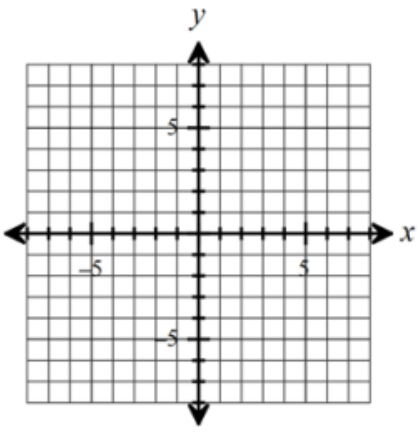


$(x-h)^2+(y-k)^2=r^2$

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

Center: (,) (h,k)

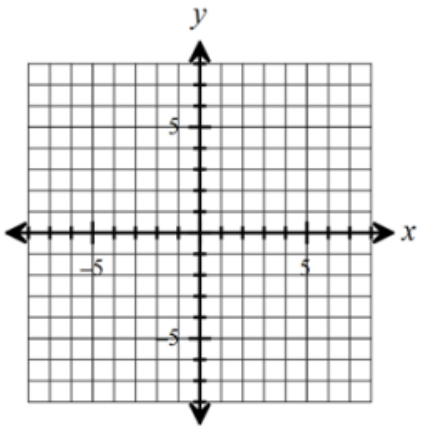
Radius: $\sqrt{15} \approx$



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

Center: _____

Radius: _____

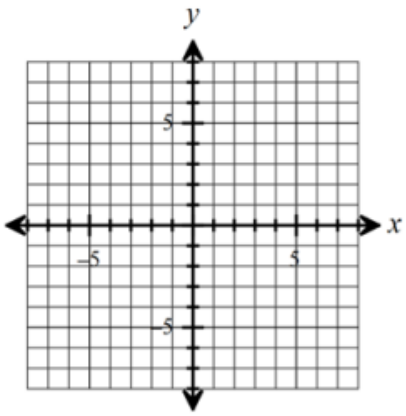


$(x-h)^2+(y-k)^2=r^2$

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

Center:_____

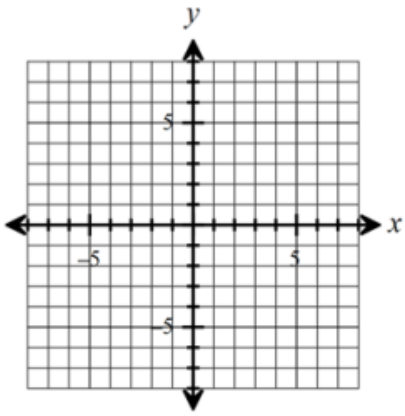
Radius: _____



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

Center: _____

Radius: _____



Use the given information provided to write the standard form equation of each circle.

h k

11. Center: $(0, 0)$ Radius: $10 = r$

Equation: $(x-0)^2 + (y-0)^2 = 100$

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

replace h with 0; replace k with 0. Find 10^2 Replace r^2 with 10^2 answer

12. Center: $(-12, 7)$ Radius: $\sqrt{19}$

Equation: _____

(h,k) $r=8$

13. Center: $(7, 11)$ Radius: 8

Equation: _____

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

14. Center: $(2, -14)$ Radius: 4

Equation: _____

(h,k) $r=\sqrt{34}$

15. Center: $(-2, -7)$ Radius: $\sqrt{34}$

Equation: _____

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

16. Center: $(-5, 0)$ Radius: 10

Equation: _____

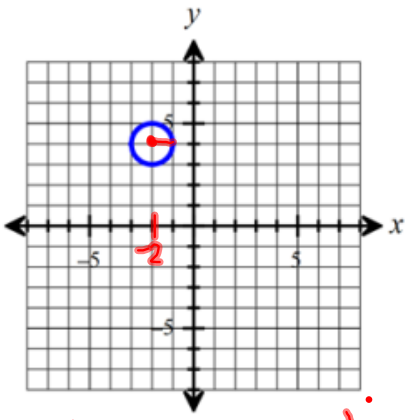
Write the center and radius of each circle. Then write the equation for each circle.

17. Center: (-2, 4)

Radius: r = 1 $r^2 = 1^2 = 1$

Equation: $(x - -2)^2 + (y - 4)^2 = 1$

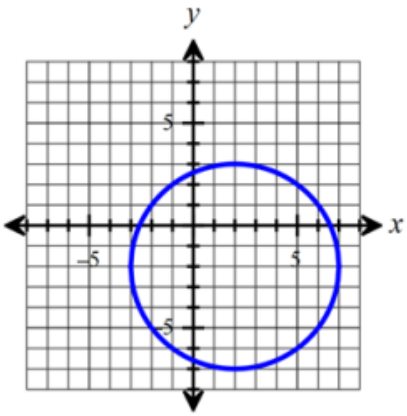
$(x-h)^2 + (y-k)^2 = r^2$



18. Center: _____

Radius: _____

Equation: _____



name coordinates of center
(-2, 4) These are (h, k)
How Far is circle from center? That is radius.
r = 1

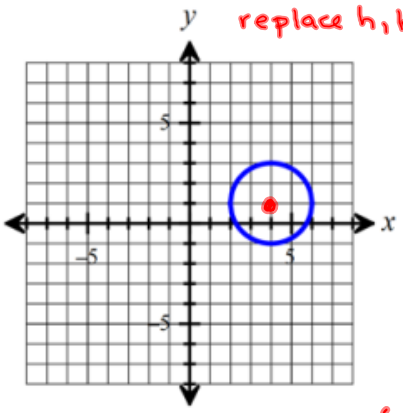
19. Center: _____

Radius: _____

Equation: _____

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

replace h, k and r^2 with correct numbers.



center is ( )

20. Center: _____

Radius: _____

Equation: _____