

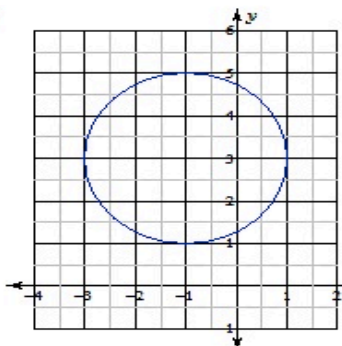
Review Unit 4 Conics

Write the equation using the information.

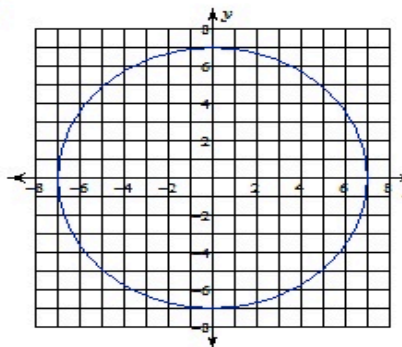
1. Center: (0, 0), Radius: 9

2. Center: (13, -12), Radius: 4

3.



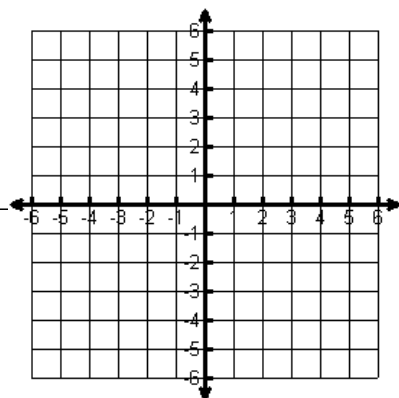
4.



Graph the following circles. State the center and radius.

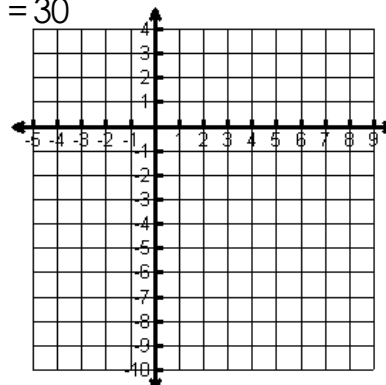
1. $x^2 + y^2 = 24$

Center: _____
Radius: _____



2. $(x-2)^2 + (y+3)^2 = 30$

Center: _____
Radius: _____



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

3. $x^2 + y^2 - 10x - 2y = -10$

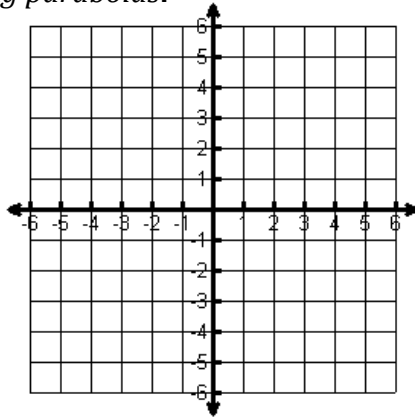
4. $x^2 + y^2 - 8x + 4y - 6 = 0$

5. A circular disk drive has a diameter with endpoints at (-9, 2) and (15, 12). Find the center and radius of the disk drive. Write the equation of the circle in standard form.

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Graph the following parabolas:

6. $4x + y^2 = 0$

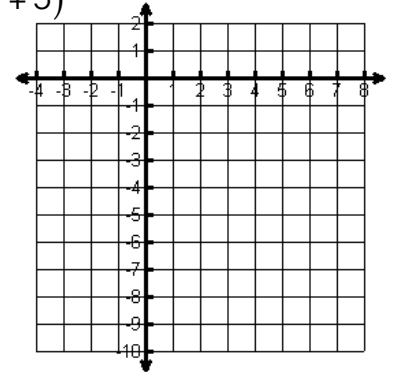


Direction: _____

Focus: _____

Directrix: _____

7. $(x - 2)^2 = 12(y + 5)$



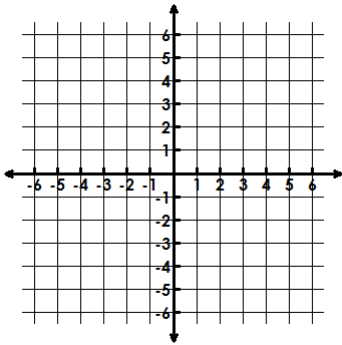
Direction: _____

Focus: _____

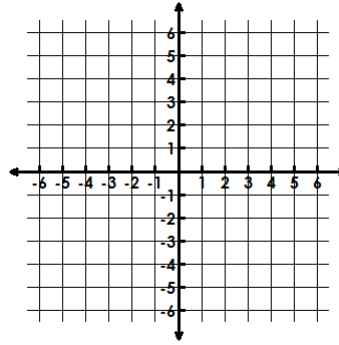
Directrix: _____

Write the equation of each parabola described below:

8. Vertex: $(-4, -1)$ and Focus: $(-4, 2)$



9. Directrix is $x = 2$ and Vertex: $(-1, 2)$



Find the intersection of the two equations:

10. **Algebraically:** $x^2 + y^2 = 34$
 $y = x + 2$

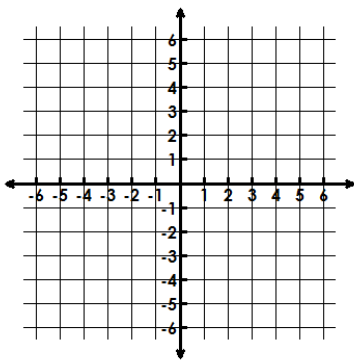
Intersection(s): _____

11. **Graphically:** $(x - 4)^2 + (y + 1)^2 = 16$
 $y = x - 1$

Intersection(s): _____

12. Circle C has a center of $(3, 4)$ and a radius of 5. Does the point $(0, 9)$ lie on circle C? Show your evidence (work).

13. A parabola has its focus at $(1, -2)$ and its directrix at $y = 2$. Does the point $(5, -2)$ lie on the parabola? Show your evidence (work).



14. Write the equation of the circle centered at $(-4, 6)$ with a diameter of 16.

15. Point C is the midpoint between A and B. If point C is at $(-4, 10)$ and point A is $(4, 8)$, what is the point B?

16. A circular skylight has a diameter with endpoints at $(-8, 32)$ and $(1.6, 28)$. Find the center and radius of the skylight.

17. Find the intersection of the circle with a center at the origin and radius of 10, and a line with a slope of 1 and y-intercept of -2.

18. Put $x^2 + y^2 - 6x - 2y + 1 = 0$ of the circle in standard form.

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19. Find the vertex for the parabola with equation $2x + y^2 + 8y + 14 = 0$.

20 Circle C has a center of (5, 2) and a radius of 6. Does the point (8, 7) lie on circle?

21. A parabola has its focus at (5, 1) and its directrix at $x = 1$. Does the point (5, 5) lie on the parabola?

22. Use the distance formula and slope formula to determine the type of quadrilateral formed by A(2, 3), B(5, 4), C(6, 1) and D(3, 0).