

Assignment # _____

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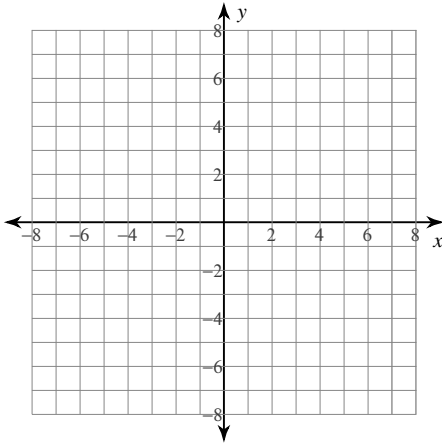
Use the information provided to write the standard form equation of each circle.

1) Center: $(-16, 12)$
Radius: 1

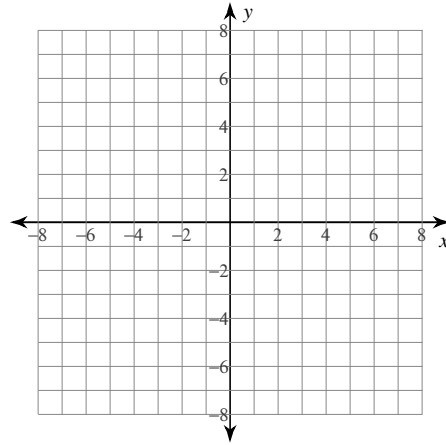
2) Center: $(-4, -14)$
Radius: $\sqrt{15}$

Identify the center and radius of each. Then sketch the graph.

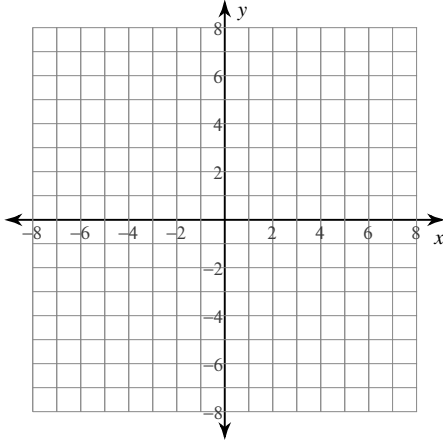
3) $(x - 4)^2 + (y + 3)^2 = 4$



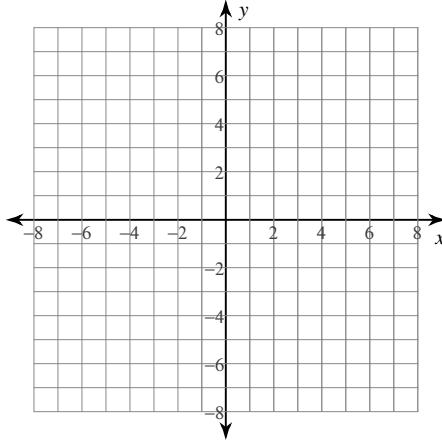
4) $(x - 3)^2 + (y + 1)^2 = 7$



5) $x^2 + y^2 - 6x - 4y + 4 = 0$



6) $x^2 + y^2 - 6x - 8y + 16 = 0$

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

7) Center: $(0, -1)$
Point on Circle: $(-7, 7)$

8) Center: $(3, 5)$
Point on Circle: $(-10, 9)$

- 9) Center lies in the third quadrant
Tangent to $y = 9$, $y = -11$, and $x = 6$

- 10) Center lies in the third quadrant
Tangent to $y = -5$, $x = 4$, and $x = -6$

- 11) Three points on the circle:
 $(13, -12)$, $(11, -14)$, and $(3, -12)$

- 12) Three points on the circle:
 $(-10, 18)$, $(-2, -9)$, and $(4, 16)$

- 13) Write the equation of a line tangent to a given circle and passes through a given point.
 $(x - 4)^2 + (y + 1)^2 = 25$.
 $P(7, 3)$

- 14) Write the equation of a line tangent to a given circle and passes through a given point.
 $(x + 3)^2 + (y - 2)^2 = 25$.
 $P(1, 5)$

Use the information provided to write the (h,k) form equation of each parabola.

- 15) Vertex: $(9, -2)$, Focus: $\left(\frac{253}{28}, -2\right)$

- 16) Vertex: $(-2, 7)$, Directrix: $x = -\frac{87}{44}$

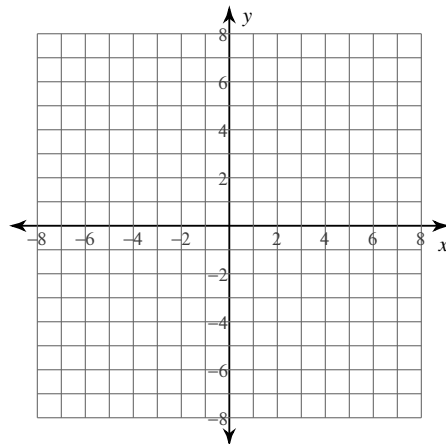
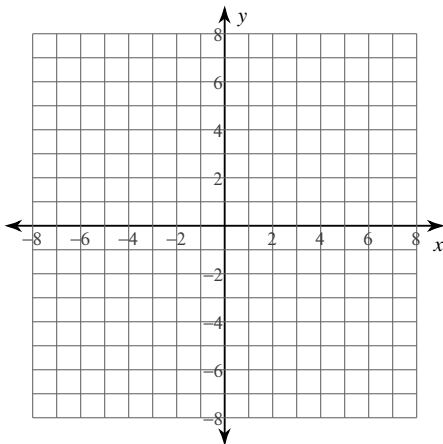
17) $x^2 + 20x + 3y + 103 = 0$

18) $-3x^2 + 54x + y - 249 = 0$

Identify the vertex, focus, axis of symmetry, directrix, and direction of opening of each. Then sketch the graph.

19) $2x^2 - 20x + y + 52 = 0$

20) $-2y^2 + x + 24y - 71 = 0$

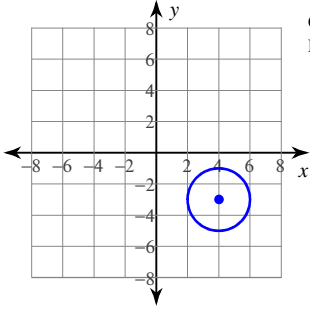


Answers to Assignment # _____ (ID: 1)

1) $(x + 16)^2 + (y - 12)^2 = 1$

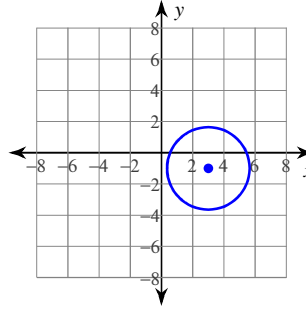
2) $(x + 4)^2 + (y + 14)^2 = 15$

3)



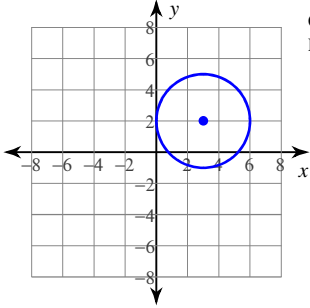
Center: (4, -3)
Radius: 2

4)



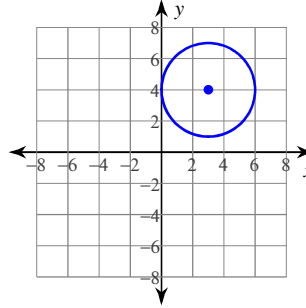
Center: (3, -1)
Radius: $\sqrt{7}$

5)



Center: (3, 2)
Radius: 3

6)



Center: (3, 4)
Radius: 3

7) $x^2 + (y + 1)^2 = 113$

8) $(x - 3)^2 + (y - 5)^2 = 185$

9) $(x + 4)^2 + (y + 1)^2 = 100$

10) $(x + 1)^2 + (y + 10)^2 = 25$

11) $(x - 8)^2 + (y + 9)^2 = 34$

12) $\left(x + \frac{1713}{362}\right)^2 + \left(y - \frac{1765}{362}\right)^2 = \frac{13104325}{65522}$

13) $3x + 4y = 33$

14) $4x + 3y = 19$

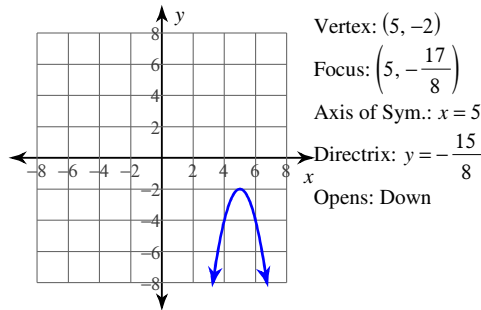
15) $\frac{1}{7}(x - 9) = (y + 2)^2$

16) $-\frac{1}{11}(x + 2) = (y - 7)^2$

17) $-3(y + 1) = (x + 10)^2$

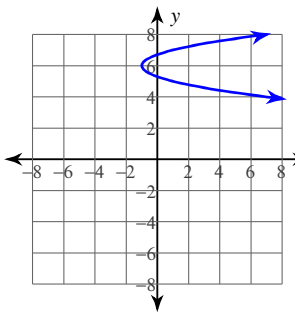
18) $\frac{1}{3}(y - 6) = (x - 9)^2$

19)



Vertex: (5, -2)
Focus: $\left(5, -\frac{17}{8}\right)$
Axis of Sym.: $x = 5$
Directrix: $y = -\frac{15}{8}$
Opens: Down

20)



Vertex: (-1, 6)
Focus: $\left(-\frac{7}{8}, 6\right)$
Axis of Sym.: $y = 6$
Directrix: $x = -\frac{9}{8}$
Opens: Right