

Completing the Square - Graphing Circles

Find the value that completes the square and then rewrite as a perfect square.

1) $a^2 - 26a + \underline{\hspace{1cm}}$

2) $x^2 + 22x + \underline{\hspace{1cm}}$

3) $x^2 + 20x + \underline{\hspace{1cm}}$

4) $x^2 + 32x + \underline{\hspace{1cm}}$

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

5) $(x - 11)^2 + (y + 8)^2 = 16$

6) $(x - 7)^2 + (y - 11)^2 = 9$

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

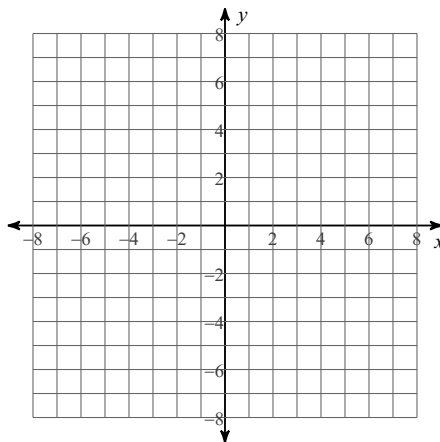
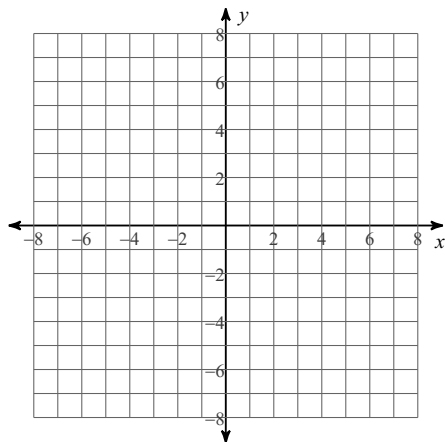
7) $x^2 + y^2 - 20x + 10y + 89 = 0$

8) $-6x + y^2 + 121 = -x^2 + 22y$

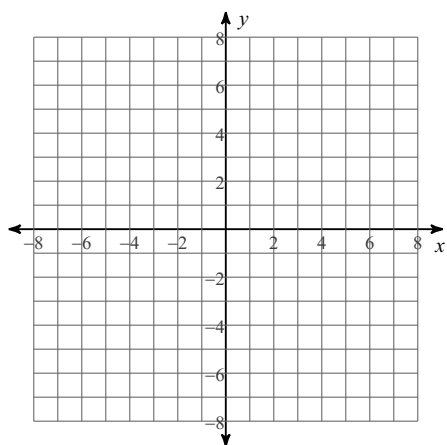
Identify the center and radius of each. Then sketch the graph.

9) $x^2 + y^2 - 8x + 2y + 13 = 0$

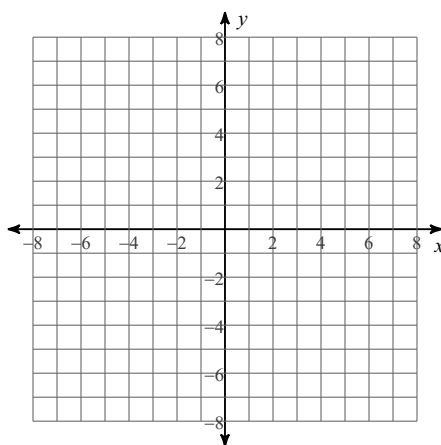
10) $x^2 + y^2 - 8y + 7 = 0$



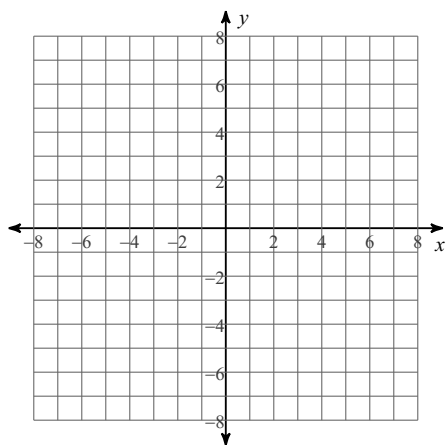
11) $x^2 + y^2 - 8x - 4y + 11 = 0$



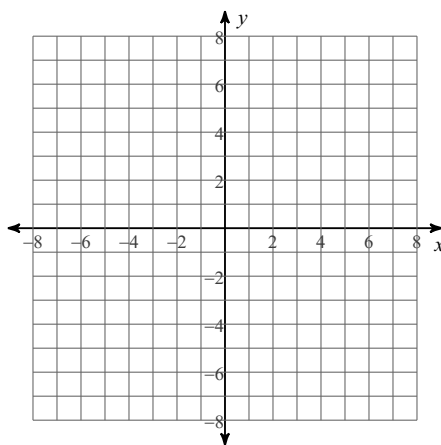
12) $x^2 + y^2 + 6x - 7 = 0$



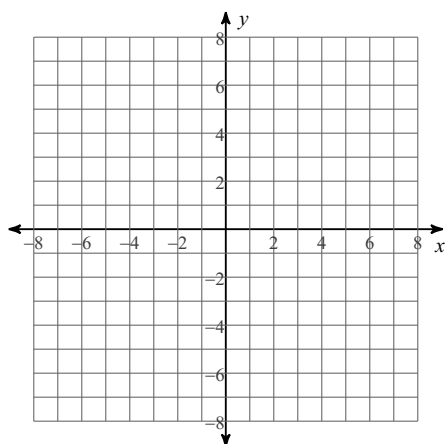
13) $x^2 + y^2 + 6x - 4y - 2 = 0$



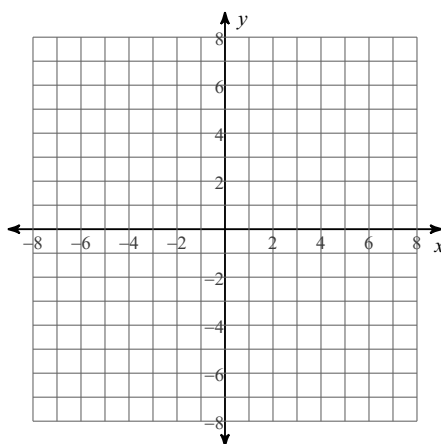
14) $x^2 + y^2 + 8y + 15 = 0$



15) $x^2 + y^2 - 4x + 4y - 13 = 0$



16) $x^2 + y^2 + 6x - 6y + 7 = 0$



Completing the Square - Graping Circles

Find the value that completes the square and then rewrite as a perfect square.

1) $a^2 - 26a + \underline{\hspace{1cm}}$

169; $(a - 13)^2$

2) $x^2 + 22x + \underline{\hspace{1cm}}$

121; $(x + 11)^2$

3) $x^2 + 20x + \underline{\hspace{1cm}}$

100; $(x + 10)^2$

4) $x^2 + 32x + \underline{\hspace{1cm}}$

256; $(x + 16)^2$

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

5) $(x - 11)^2 + (y + 8)^2 = 16$

$x^2 + y^2 - 22x + 16y + 169 = 0$

6) $(x - 7)^2 + (y - 11)^2 = 9$

$x^2 + y^2 - 14x - 22y + 161 = 0$

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

7) $x^2 + y^2 - 20x + 10y + 89 = 0$

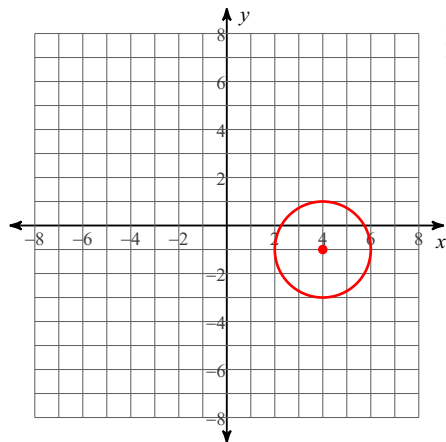
$(x - 10)^2 + (y + 5)^2 = 36$

8) $-6x + y^2 + 121 = -x^2 + 22y$

$(x - 3)^2 + (y - 11)^2 = 9$

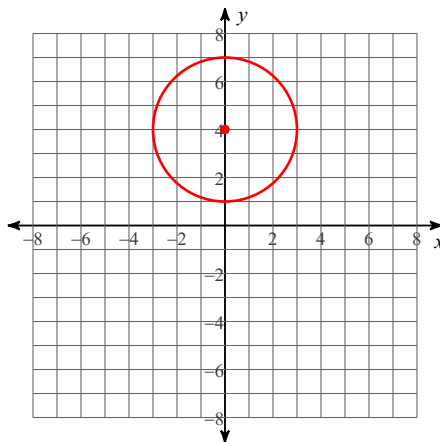
Identify the center and radius of each. Then sketch the graph.

9) $x^2 + y^2 - 8x + 2y + 13 = 0$



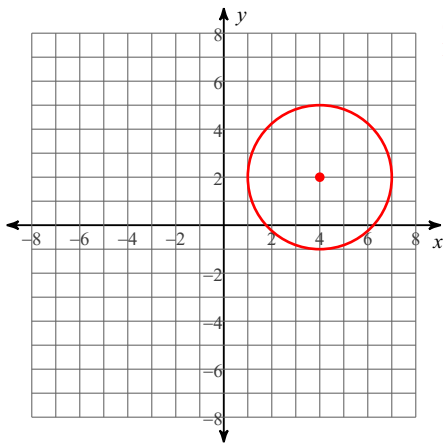
Center: (4, -1)
Radius: 2

10) $x^2 + y^2 - 8y + 7 = 0$



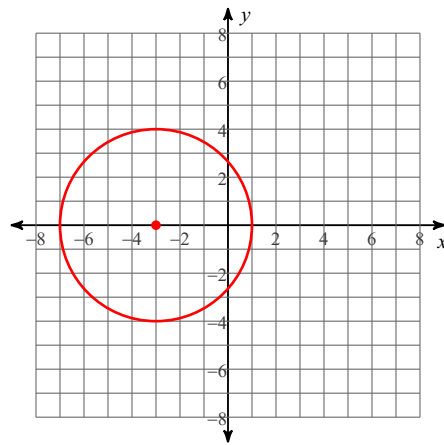
Center: (0, 4)
Radius: 3

11) $x^2 + y^2 - 8x - 4y + 11 = 0$



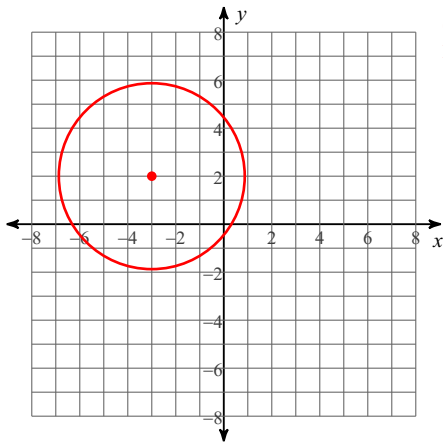
Center: $(4, 2)$
Radius: 3

12) $x^2 + y^2 + 6x - 7 = 0$



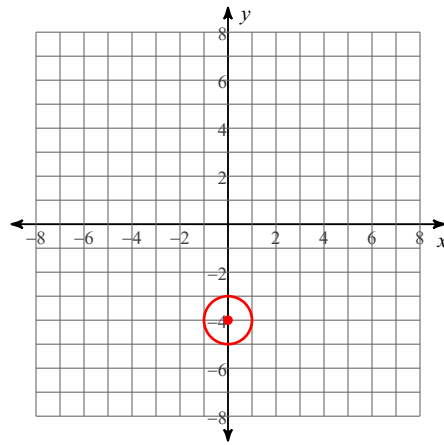
Center: $(-3, 0)$
Radius: 4

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



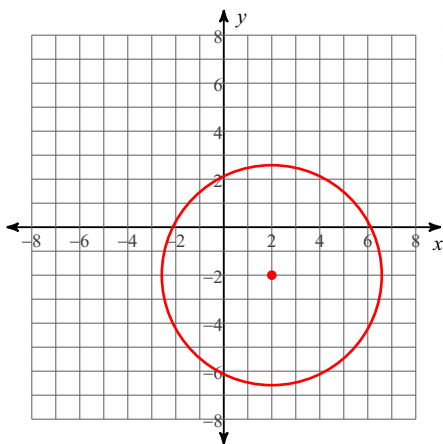
Center: $(-3, 2)$
Radius: $\sqrt{15}$

14) $x^2 + y^2 + 8y + 15 = 0$



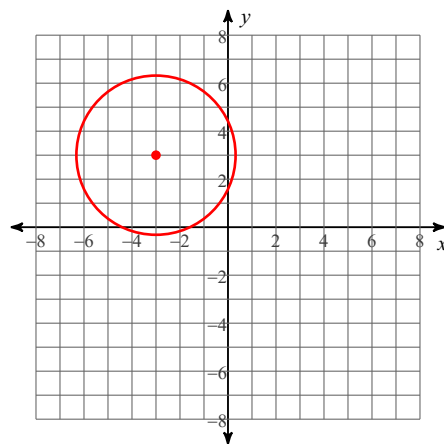
Center: $(0, -4)$
Radius: 1

15) $x^2 + y^2 - 4x + 4y - 13 = 0$



Center: $(2, -2)$
Radius: $\sqrt{21}$

16) $x^2 + y^2 + 6x - 6y + 7 = 0$



Center: $(-3, 3)$
Radius: $\sqrt{11}$