Chapter 9.2: Circles

Write the equation for each circle in the form $(x - h)^2 + (y - k)^2 = r^2$.

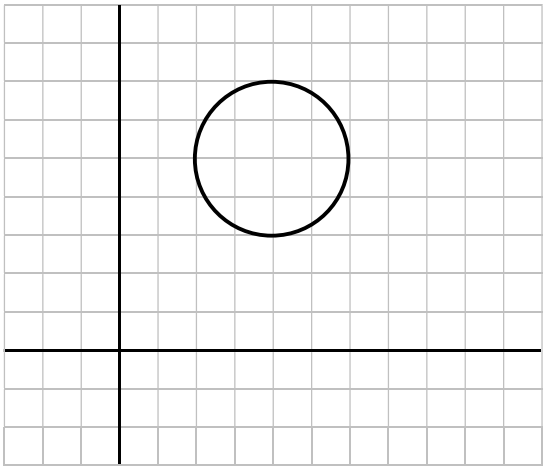
1. Center (4, 7), Radius = 10
2. Center (-2, 1), Radius = 8
3. Center (0, 3), Radius = 5

List the center and radius of each circle. **Graph each one**. Pay attention to the line type and shading.

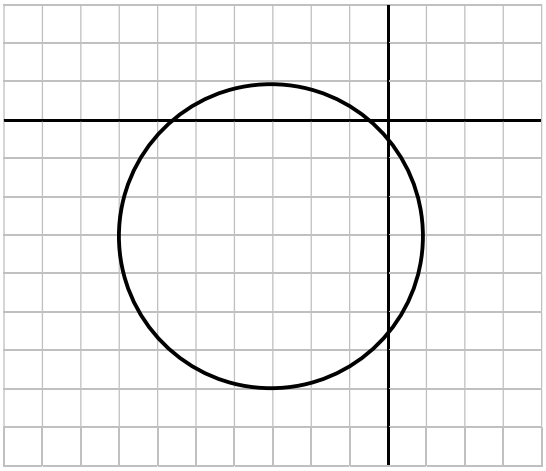
4. $(x - 2)^2 + (y - 11)^2 < 36$
5. $(x + 5)^2 + (y - 1)^2 \geq 17$
6. $(x - 6)^2 + y^2 = 45$
7. $(x + 3)^2 + (y - 2)^2 < 25$

Write the equation for each graph. Each square equals 1 unit.

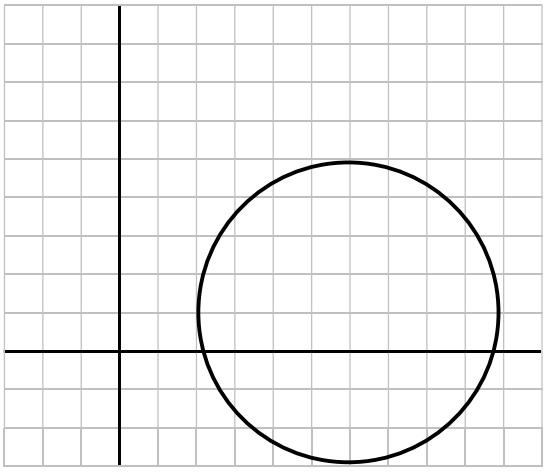
8.



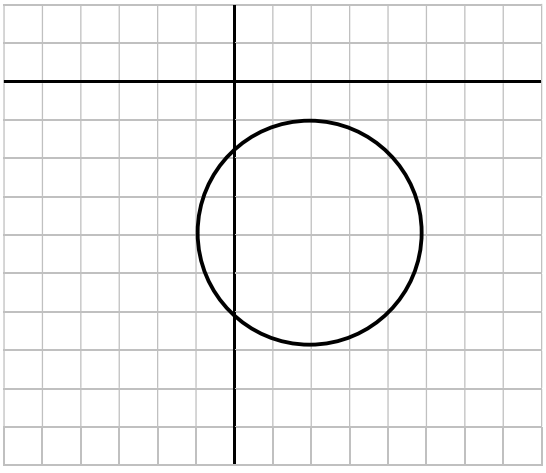
10.



9.



11.



Rearrange each equation and complete the square to determine the center and radius of each circle. **Graph each one.** Pay attention to the line type and shading.

12. $x^2 + y^2 + 8x + 6y - 119 > 0$
13. $x^2 + y^2 - 12x - 4y + 31 \geq 0$
14. $x^2 + y^2 + 10x - 2y + 10 < 0$