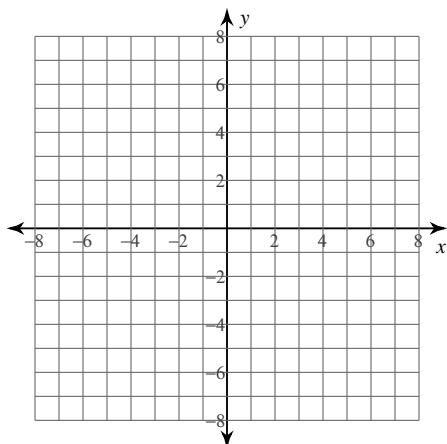
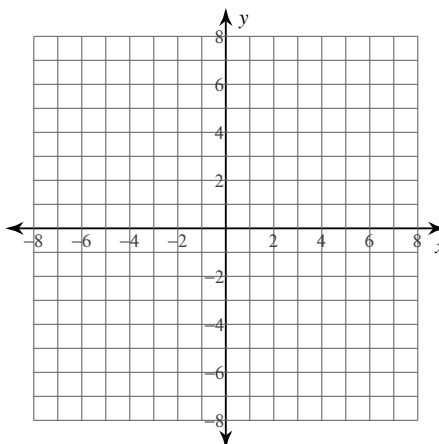


Identify the center and radius of each. Then sketch the graph.

11) $x^2 + y^2 + 8y + 7 = 0$



12) $x^2 + y^2 - 2x + 4y - 10 = 0$



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

13) Center: $(3, 9)$
Radius: 7

14) Center: $(-7, -13)$
Area: 25π

15) Center: $(-16, 0)$
Circumference: 2π

16) Center: $(12, -9)$
Circumference: 8π

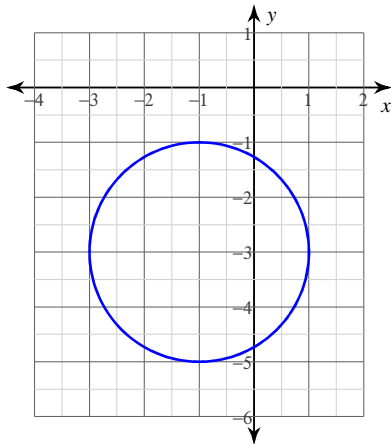
17) Center: $(-16, -11)$
Point on Circle: $(-13, -11)$

18) Center: $(16, -17)$
Point on Circle: $(14, -17)$

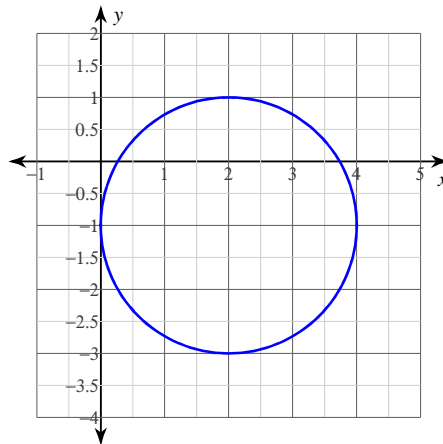
19) Ends of a diameter: $(7, -13)$ and $(-1, 17)$

20) Ends of a diameter: $(-3, -11)$ and $(-4, 16)$

21)



22)



23) Center: $(3, 13)$
Tangent to $x = -1$

24) Center: $(6, 4)$
Tangent to $x = 5$