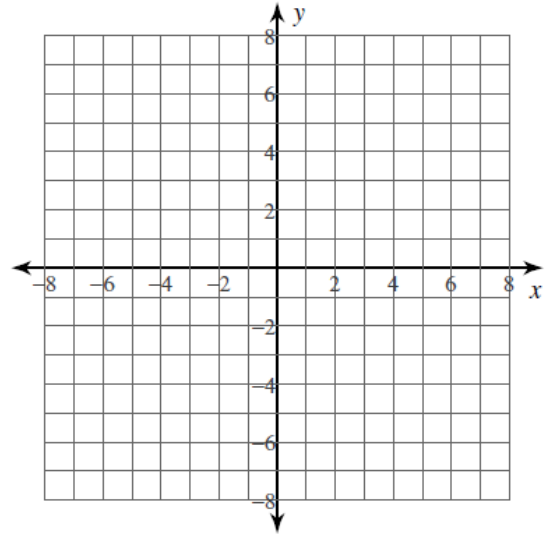Graph the circle given by each equation below.
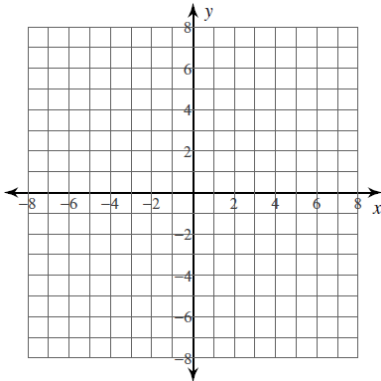
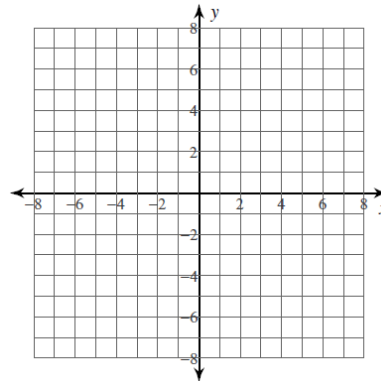1) $(x-1)^2 + (y+4)^2 = 9$
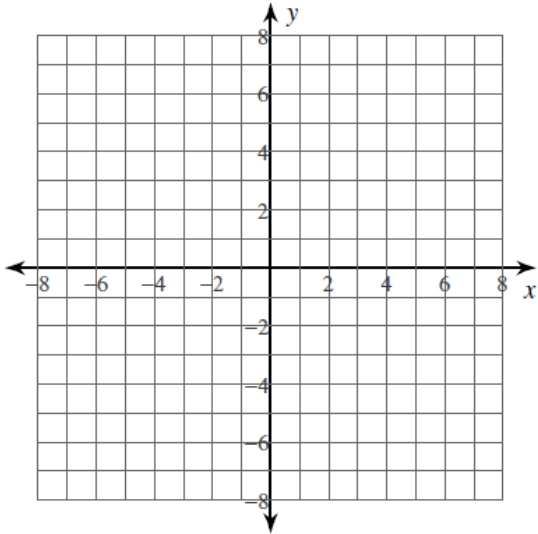


2) $x^2 + (y-3)^2 = 14$



Use the information provided to write the equation of a circle that fits the criteria given. Use a graph to help you if necessary.
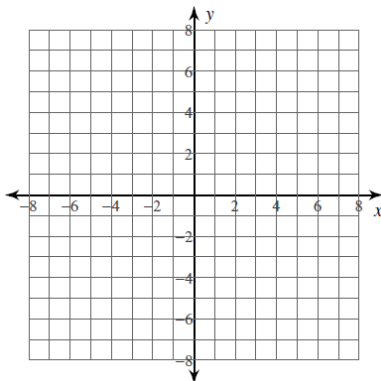
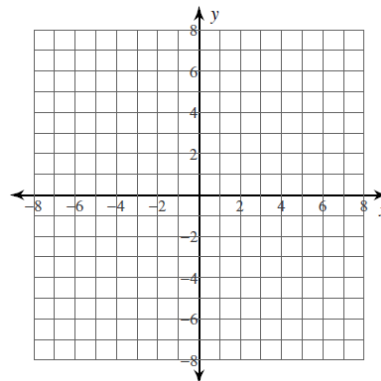3) Center: (13, -13)     Radius = 3



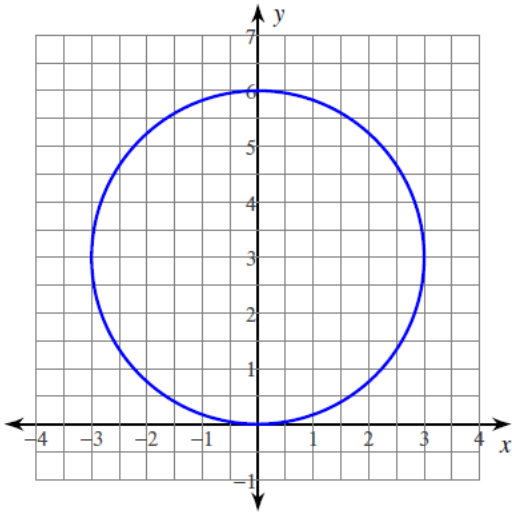4) Center: (3, -2)     Point on the Circle: (7, -2)
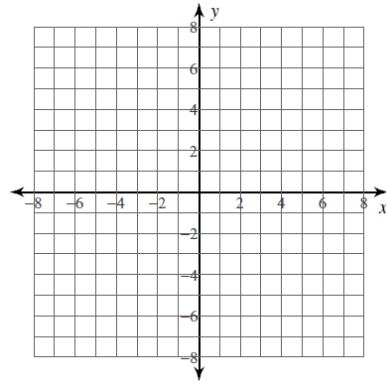


5) Center: (5, -3) Tangent to y = 4
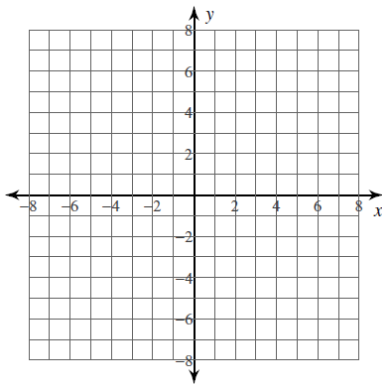


6) Center: (0, 3)     Point on the Circle: (6, 4)

7) Write the equation of each graphed circle or the circle in the description.



8) Translate the circle $(x - 2)^2 + (y + 4)^2 = 1$ up 3 and left 6.



9) Dilate the circle $(x - 1)^2 + y^2 = 9$ by a factor of 3.



10) A circle with center (-1, 5) and an area of $25\pi$.