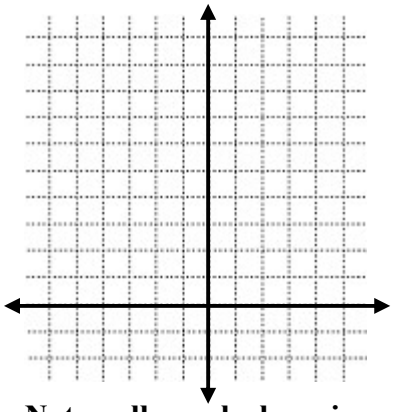
Ch.11 Conics (circles) **NAME:** **PER:**

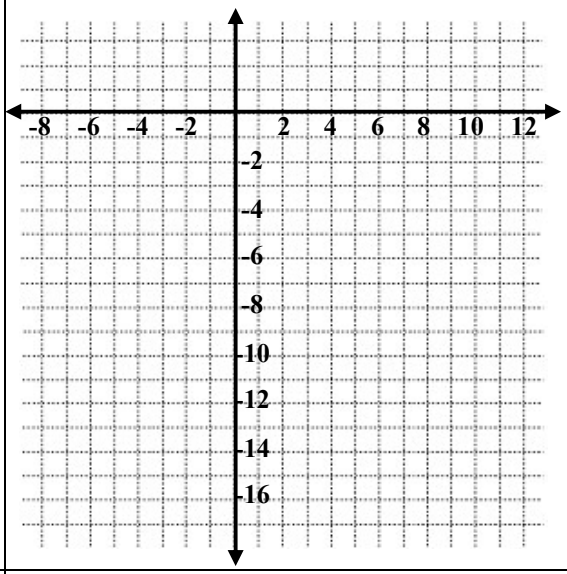
Write the equation of a circle in standard form (SHOW WORK!) Sketch a graph by plotting key points.

1. A circle with center (-1, 4) and tangent to x = 3.



Note: all graphs have increments of 1 unless marked otherwise.

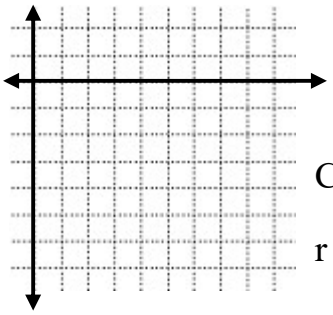
2. $x^2 + y^2 - 4x + 14y - 47 = 0$



Center = (,)

r =

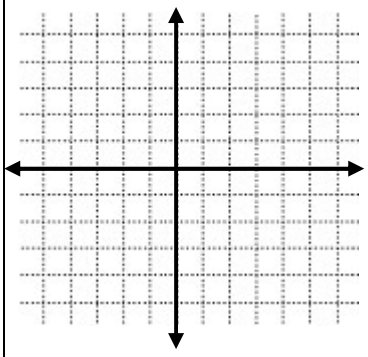
3. $2x^2 + 2y^2 - 20x + 8y + 34 = 0$



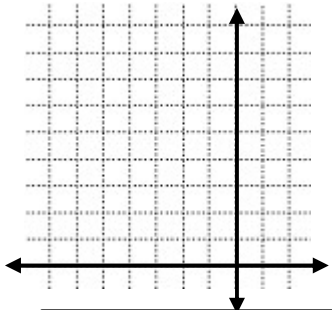
Center = (,)

r =

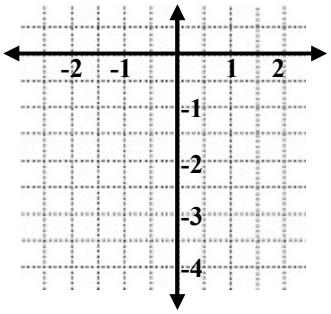
4. A circle with center (0, 0) and radius 5.



5. A circle with center (-4, 7) and radius $\sqrt{3}$.

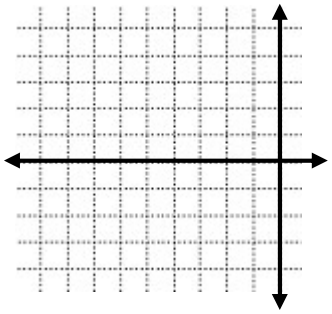


6. A circle with center (-1, -3) and radius $\frac{\sqrt{2}}{2}$.

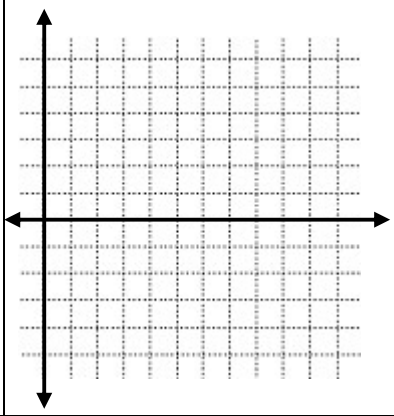


CHECK ANSWERS: $(x-5)^2 + (y+2)^2 = 12$ $x^2 + y^2 = 25$ $(x+1)^2 + (y-4)^2 = 16$ (2, -7)
$(x+1)^2 + (y+3)^2 = \frac{1}{2}$ $(x-2)^2 + (y+7)^2 = 100$ $(x+4)^2 + (y-7)^2 = 3$ $\sqrt{12} \approx 3.5$ 10 (5, -2)

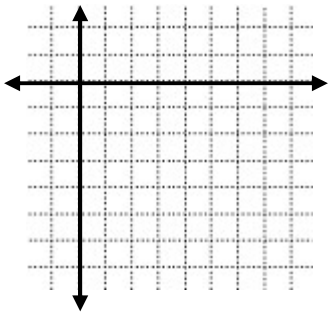
7. A circle with center (-5, 0) and radius $\frac{9}{2}$.



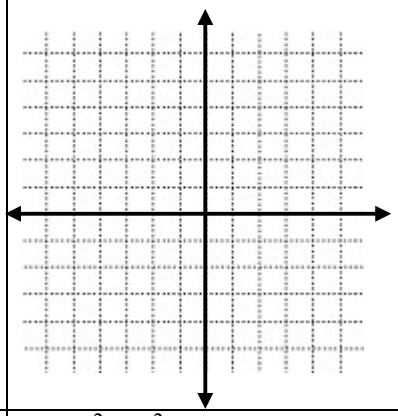
8. A circle with center (6, 1) and tangent to y-axis.



9. A circle with center (3, -2) and tangent to y = 2.



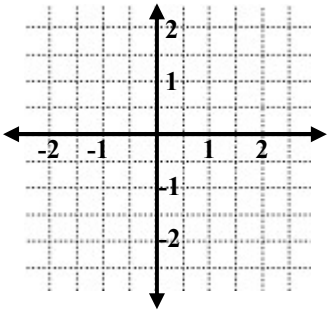
10. $36 - x^2 = y^2$



Center = (,)

r =

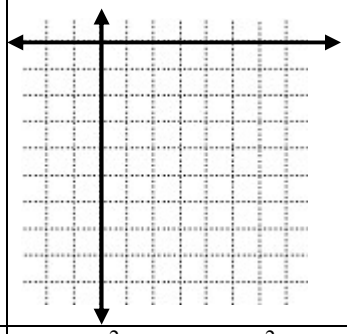
11. $x^2 + y^2 + y = \frac{3}{4}$



Center = (,)

r =

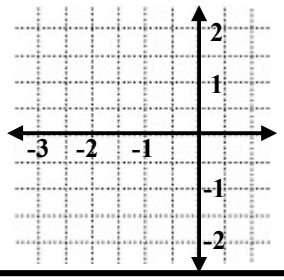
12. $x^2 + y^2 - 4x + 12y + 30 = 0$



Center = (,)

r =

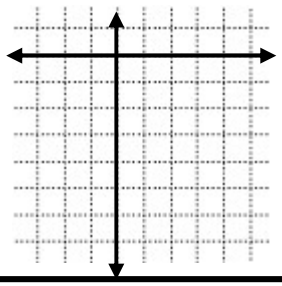
13. $2x^2 + 2y^2 + 2x - 4y = -1$



Center = (,)

r =

14. $6x^2 - 12x + 6y^2 + 36y = 36$



Center = (,)

r =

CHECK ANSWERS: $x^2 + (y + \frac{1}{2})^2 = 1$ $x^2 + y^2 = 36$ $(x - 6)^2 + (y - 1)^2 = 36$ $(x - 1)^2 + (y + 3)^2 = 16$ 1 4 6 $\sqrt{10}$ $\frac{\sqrt{3}}{2}$

$(x + \frac{1}{2})^2 + (y - 1)^2 = \frac{3}{4}$ $(x + 5)^2 + y^2 = \frac{81}{4}$ $(x - 3)^2 + (y + 2)^2 = 16$ $(x - 2)^2 + (y + 6)^2 = 10$ (-½,1) (0,0) (0, -½) (1,-3) (2,-6)