Pre-Calculus Worksheet Name: _____

Conic Sections – Circles Period: ____

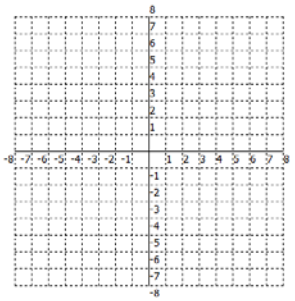
I. Determine the center and radius and then graph. Then rewrite the circle in the requested form.

1. $(x-1)^2+(y+2)^2=9$

Center: $(\_\_\_\_\_,\_\_\_\_\_)$ and $r=$ _____

Parametric Form of the Circle:

$x=$ _____ and $y=$ _____

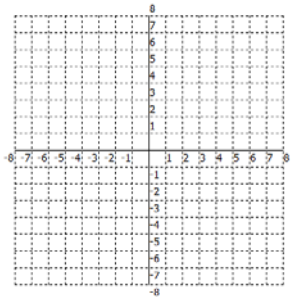


2. $x^2+y^2+8x-6y=-9$

Center: $(\_\_\_\_\_,\_\_\_\_\_)$ and $r=$ _____

Parametric Form of the Circle:

$x=$ _____ and $y=$ _____

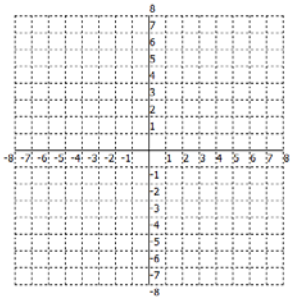


3. $2x^2+2y^2-16x-20y+74=0$

Center: $(\_\_\_\_\_,\_\_\_\_\_)$ and $r=$ _____

Parametric Form of the Circle:

$x=$ _____ and $y=$ _____

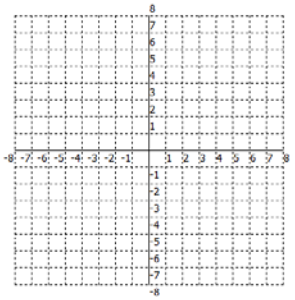


4. $x=5\cos T+3$
$y=5\sin T-2$

Center: $(\_\_\_\_\_,\_\_\_\_\_)$ and $r=$ _____

Standard Form of the Circle:

_____

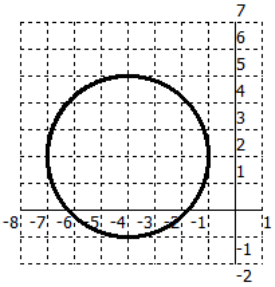


II. Write the equation of the circle in the requested form.

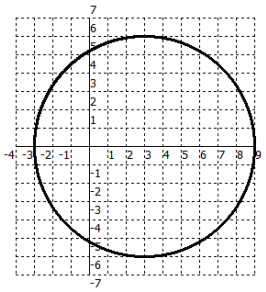
5. Circle with center $(2,5)$ and passing through $(4,1)$ in standard form.

6. Circle with center $(-1,5)$ and passing through $(7,-1)$ in parametric form.

7. In standard form…



8. In parametric form…



9. Circle with center $(-2,1)$ and tangent to the y-axis in standard form

10. Circle with center $(-3,-2)$ and tangent to the x-axis in parametric form

11. Congruent to the circle $x^2+y^2=9$ and translated 3 units down and 4 units right in parametric form

12. Congruent to the circle $(x-2)^2+(y+1)^2=4$ and translated 3 units up and 2 units left in standard form

III. Determine whether the graph of each of the following is a circle, a point circle, or no circle. Explain your answer.

13. $2x^2+2y^2=5y-4x-2$

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

15. $3x^2+3y^2-30x+18y+178=0$