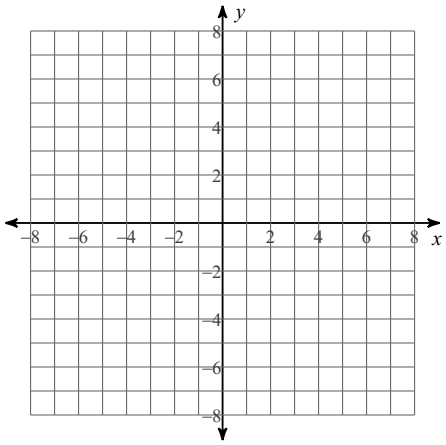
Precalculus Name_____ ID: 1

Circles

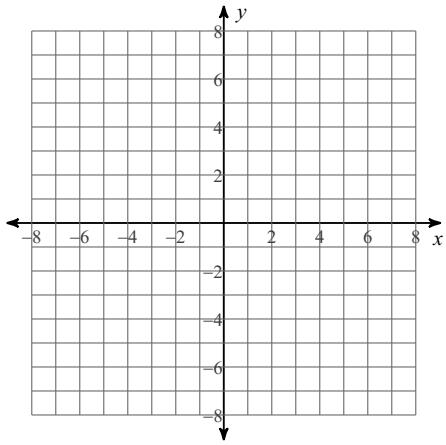
Date_____ Period____

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

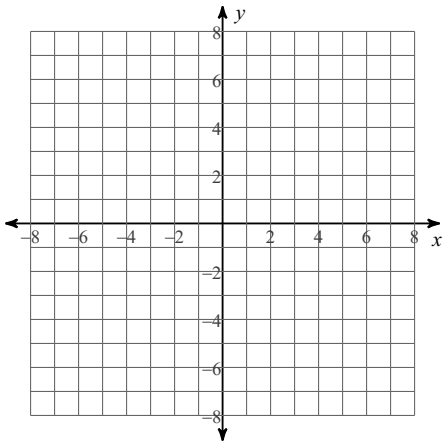
1) $x^2 + y^2 - 1 = 0$



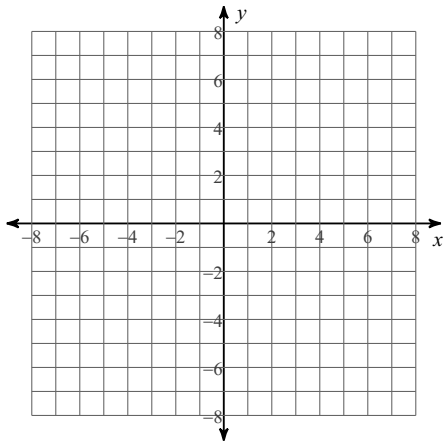
2) $x^2 + y^2 - 8x + 12 = 0$



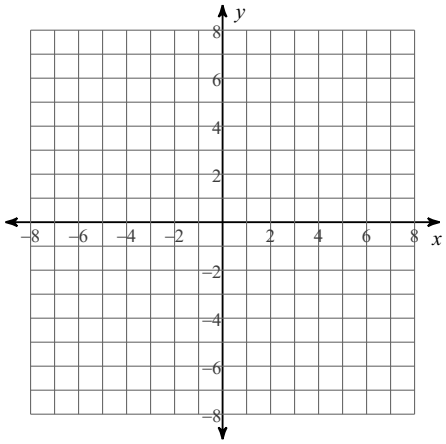
3) $x^2 + y^2 + 6x + 2y - 2 = 0$



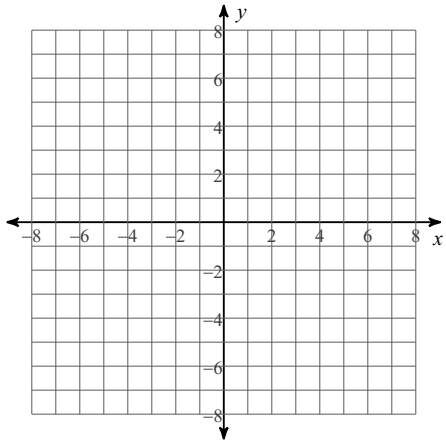
4) $x^2 + y^2 - 8y + 7 = 0$



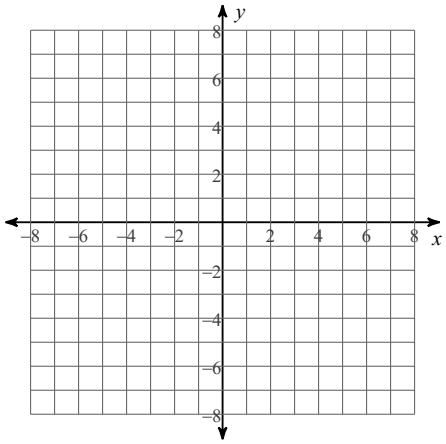
5) $x^2 + y^2 + 2x - 8y + 13 = 0$



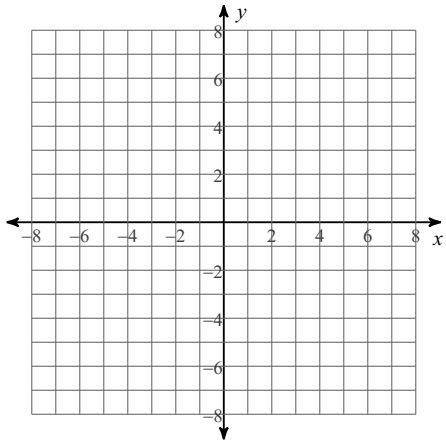
6) $x^2 + y^2 + 6x - 2y - 6 = 0$



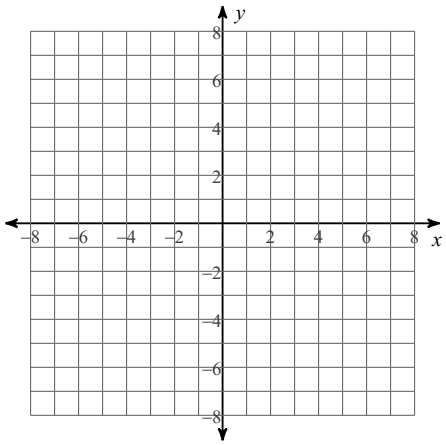
7) $x^2 + y^2 - 8x - 4y + 11 = 0$



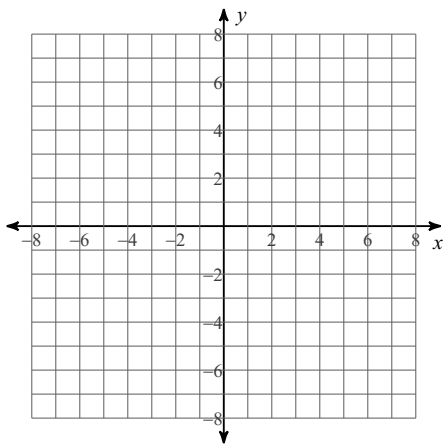
8) $x^2 + y^2 + 8x - 4y + 19 = 0$



9) $x^2 + y^2 + 4x - 8y + 19 = 0$

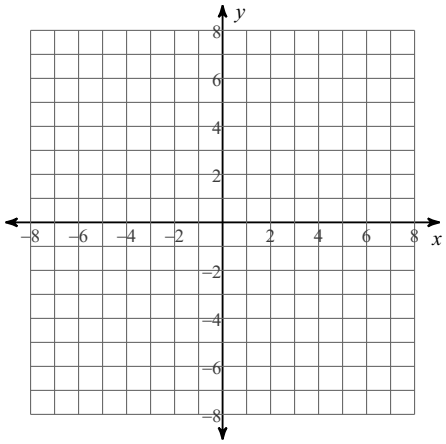


10) $4x^2 + 4y^2 + 24x + 12y - 19 = 0$

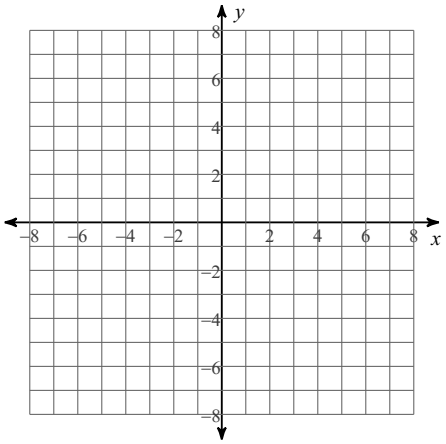


Identify the vertices, co-vertices, and foci of each. Then sketch the graph.

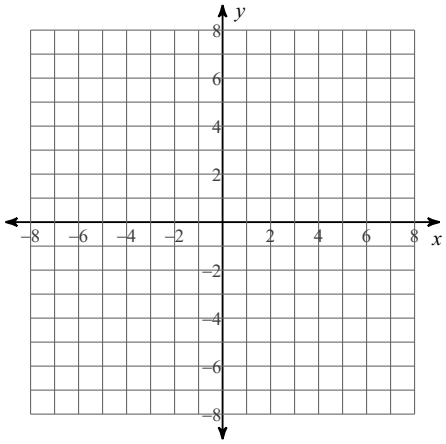
11) $49x^2 + 4y^2 - 196 = 0$



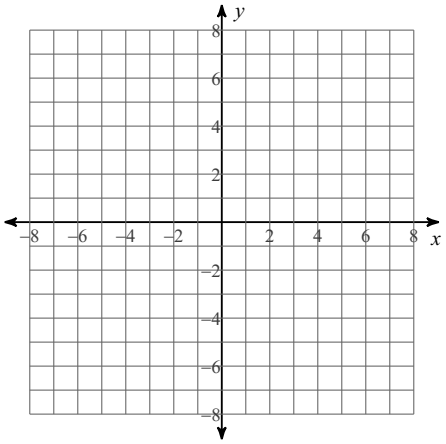
12) $x^2 + 25y^2 + 4x + 150y + 204 = 0$



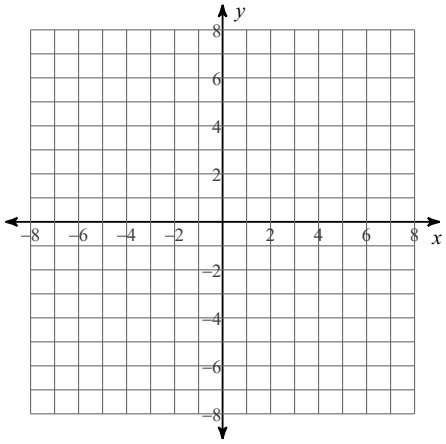
13) $25x^2 + 4y^2 - 150x - 8y + 129 = 0$



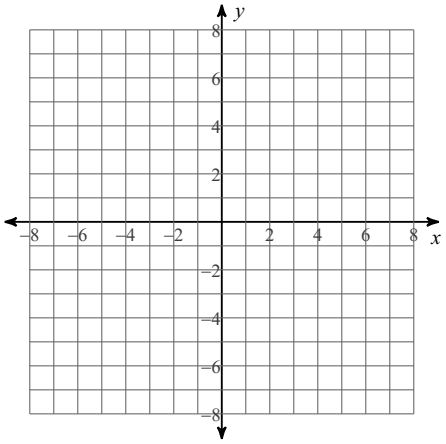
14) $9x^2 + 49y^2 + 196y - 245 = 0$



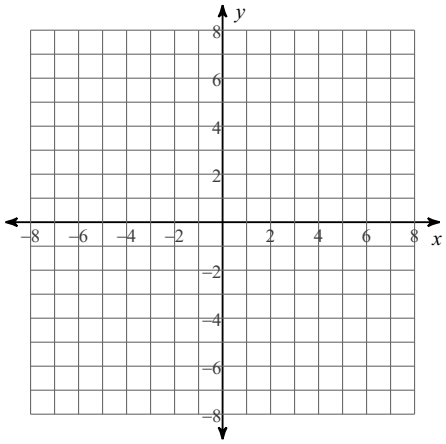
15) $25x^2 + 4y^2 - 150x + 16y + 141 = 0$



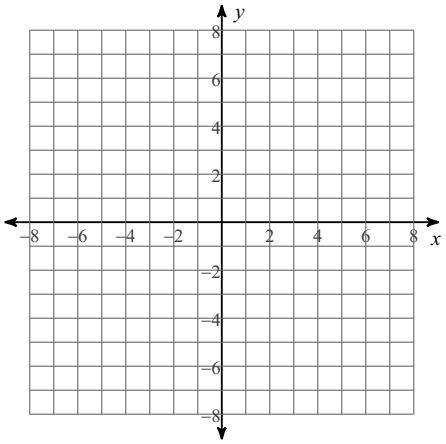
16) $9x^2 + y^2 - 72x + 2y + 136 = 0$



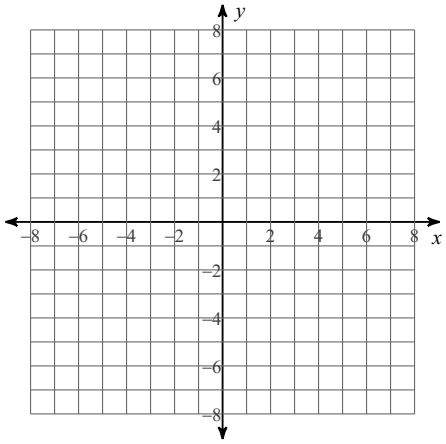
17) $9x^2 + 49y^2 - 441 = 0$



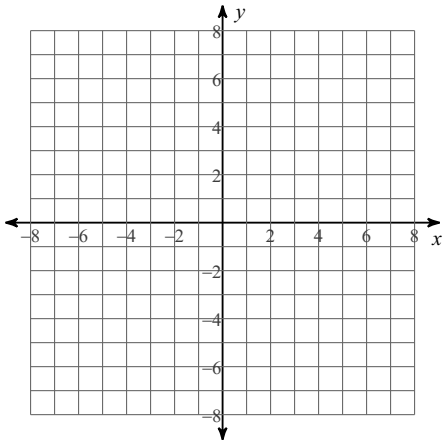
18) $x^2 + 3y^2 + 2x - 14 = 0$



19) $49x^2 + 4y^2 - 98x - 147 = 0$

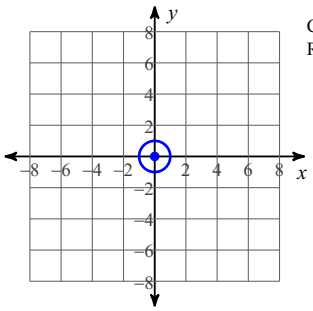


20) $x^2 + 2y^2 - 2x - 12y - 11 = 0$



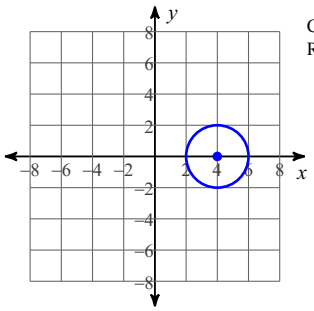
Answers to Circles (ID: 1)

1)



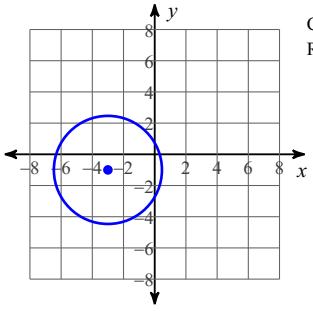
Center: $(0, 0)$
Radius: 1

2)



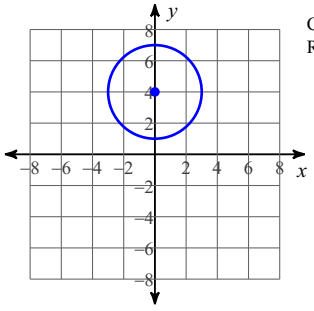
Center: $(4, 0)$
Radius: 2

3)



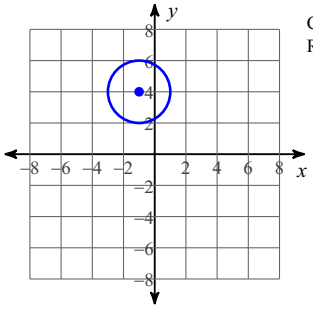
Center: $(-3, -1)$
Radius: $2\sqrt{3}$

4)



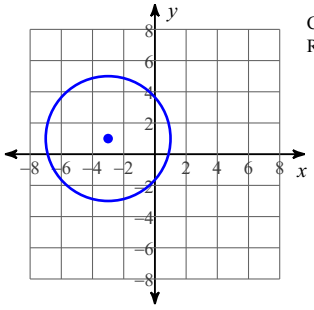
Center: $(0, 4)$
Radius: 3

5)



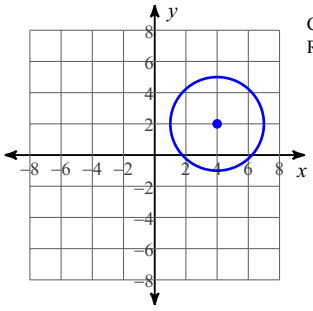
Center: $(-1, 4)$
Radius: 2

6)



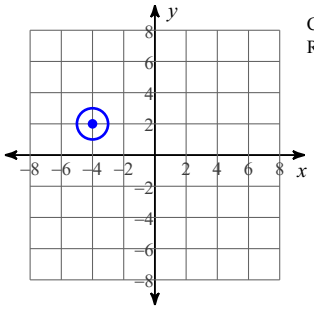
Center: $(-3, 1)$
Radius: 4

7)



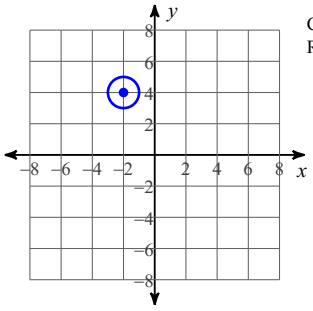
Center: $(4, 2)$
Radius: 3

8)



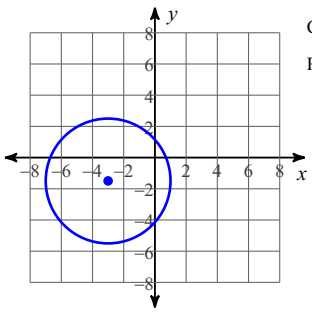
Center: $(-4, 2)$
Radius: 1

9)



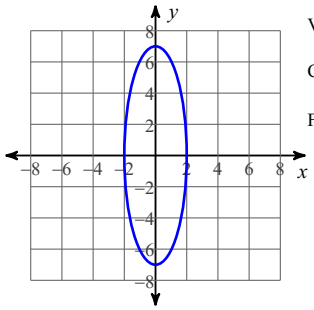
Center: $(-2, 4)$
Radius: 1

10)



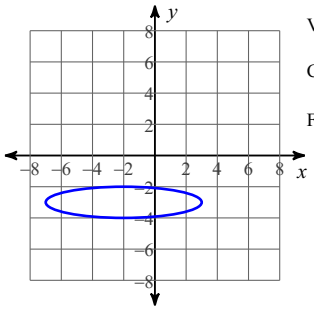
Center: $\left(-3, -\frac{3}{2}\right)$
Radius: 4

11)



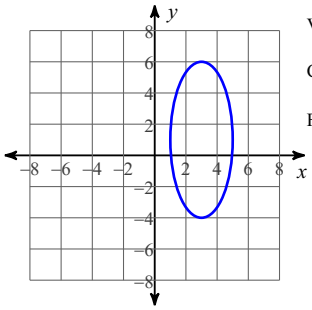
Vertices: $(0, 7)$
$(0, -7)$
Co-vertices: $(2, 0)$
$(-2, 0)$
Foci: $(0, 3\sqrt{5})$
$(0, -3\sqrt{5})$

12)



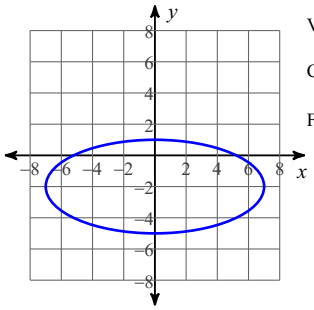
Vertices: $(3, -3)$
$(-7, -3)$
Co-vertices: $(-2, -2)$
$(-2, -4)$
Foci: $(-2 + 2\sqrt{6}, -3)$
$(-2 - 2\sqrt{6}, -3)$

13)



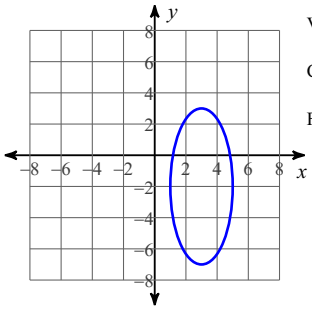
Vertices: $(3, 6)$
$(3, -4)$
Co-vertices: $(5, 1)$
$(1, 1)$
Foci: $(3, 1 + \sqrt{21})$
$(3, 1 - \sqrt{21})$

14)



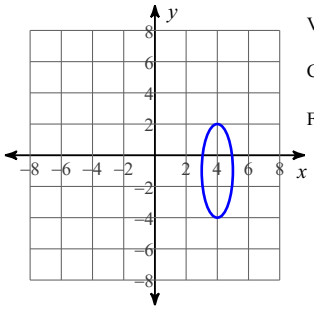
Vertices: $(7, -2)$
$(-7, -2)$
Co-vertices: $(0, 1)$
$(0, -5)$
Foci: $(2\sqrt{10}, -2)$
$(-2\sqrt{10}, -2)$

15)



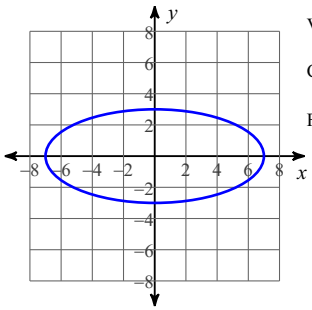
Vertices: $(3, 3)$
$(3, -7)$
Co-vertices: $(5, -2)$
$(1, -2)$
Foci: $(3, -2 + \sqrt{21})$
$(3, -2 - \sqrt{21})$

16)



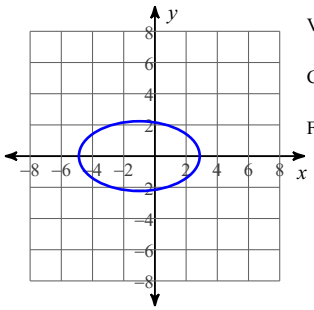
Vertices: $(4, 2)$
$(4, -4)$
Co-vertices: $(5, -1)$
$(3, -1)$
Foci: $(4, -1 + 2\sqrt{2})$
$(4, -1 - 2\sqrt{2})$

17)



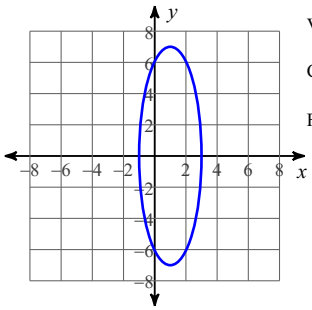
Vertices: $(7, 0)$
$(-7, 0)$
Co-vertices: $(0, 3)$
$(0, -3)$
Foci: $(2\sqrt{10}, 0)$
$(-2\sqrt{10}, 0)$

18)



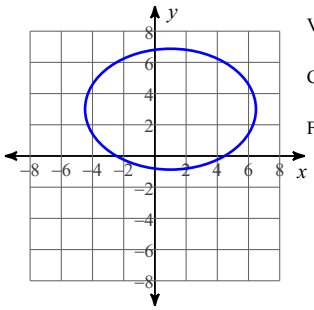
Vertices: $(-1 + \sqrt{15}, 0)$
$(-1 - \sqrt{15}, 0)$
Co-vertices: $(-1, \sqrt{5})$
$(-1, -\sqrt{5})$
Foci: $(-1 + \sqrt{10}, 0)$
$(-1 - \sqrt{10}, 0)$

19)



Vertices: $(1, 7)$
$(1, -7)$
Co-vertices: $(3, 0)$
$(-1, 0)$
Foci: $(1, 3\sqrt{5})$
$(1, -3\sqrt{5})$

20)



Vertices: $(1 + \sqrt{30}, 3)$
$(1 - \sqrt{30}, 3)$
Co-vertices: $(1, 3 + \sqrt{15})$
$(1, 3 - \sqrt{15})$
Foci: $(1 + \sqrt{15}, 3)$
$(1 - \sqrt{15}, 3)$