

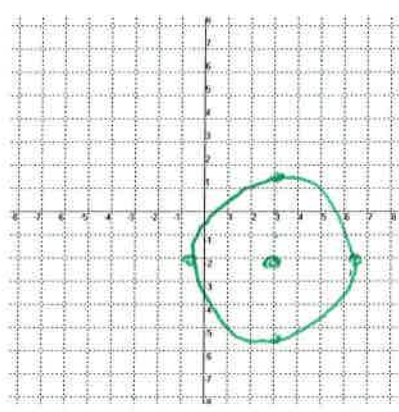
Name key

Date _____ Period _____

Graph each of the following. For each circle, give the center and radius. For each ellipse, give the center and lengths of the major and minor axes. For each parabola, give the vertex. For each hyperbola, give the center and sketch the asymptotes.

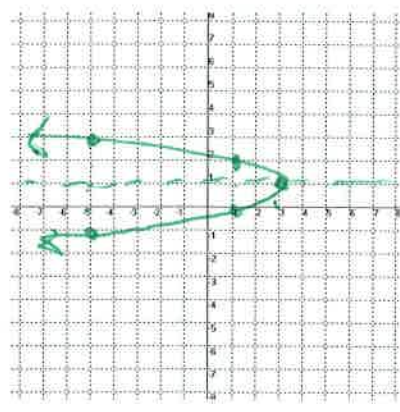
1. $(x-3)^2 + (y+2)^2 = 12$

circle
C(3, -2)
r = $\sqrt{12} = 2\sqrt{3}$



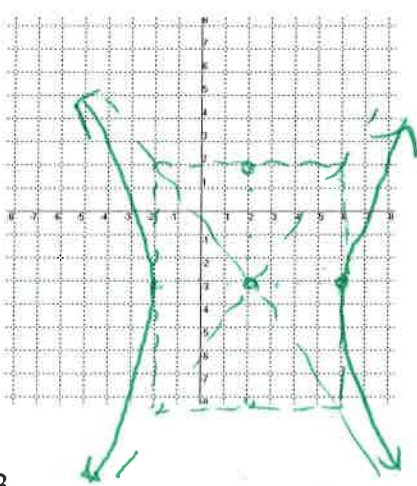
2. $x = -2(y-1)^2 + 3$

parabola
V(3, 1)
x | y
-2+3 | 0
-2(4)+3 | -1
-8+3 | -5



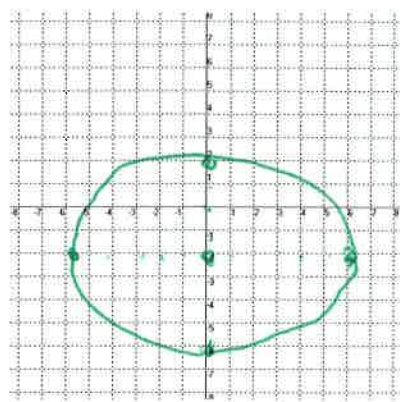
3. $\frac{(x-2)^2}{16} - \frac{(y+3)^2}{25} = 1$

hyperbola
C(2, -3)
a = 4
b = 5



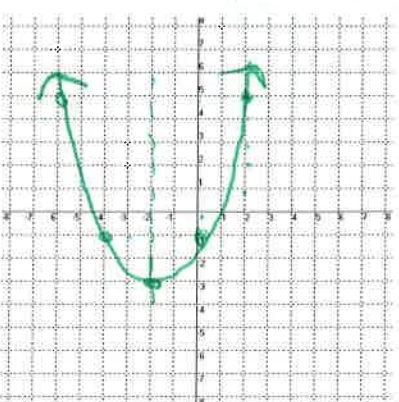
4. $\frac{x^2}{36} + \frac{(y+2)^2}{16} = 1$

ellipse
C(0, -2)
a = 6
b = 4
major: 12
minor: 8



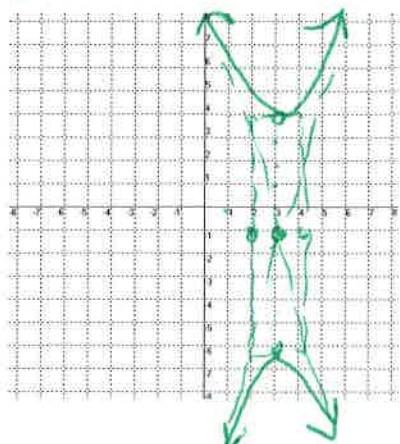
5. $y = \frac{1}{2}(x+2)^2 - 3$

parabola
V(-2, -3)
x | y
0 | $\frac{1}{2}(4) - 3 = -1$
2 | $\frac{1}{2}(16) - 3 = 5$



6. $\frac{(y+1)^2}{25} - \frac{(x-3)^2}{1} = 1$

hyperbola
C(3, -1)
a = 5
b = 1

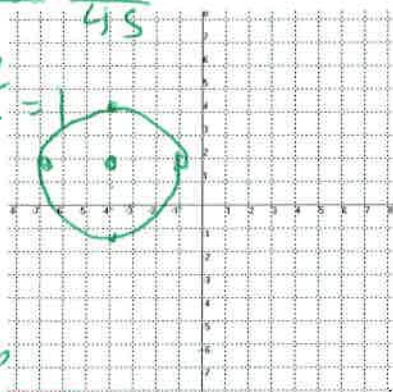


Algebra 2B
Chapter 10 - Mixed Practice

7. $9(y-2)^2 = 45 - 5(x+4)^2$

$$\frac{9(y-2)^2}{45} + \frac{5(x+4)^2}{45} = \frac{45}{45}$$

$$\frac{(y-2)^2}{5} + \frac{(x+4)^2}{9} = 1$$



ellipse

$C(-4, 2)$

$a=3$ Major: 6
 $b=\sqrt{5}$ Minor: $2\sqrt{5} \approx 4.5$

9. $50x^2 - 8y^2 = -200$

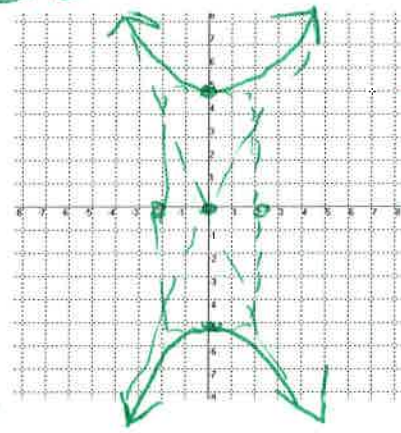
$$\frac{50x^2}{-200} - \frac{8y^2}{-200} = \frac{-200}{-200}$$

$$-\frac{x^2}{4} + \frac{y^2}{25} = 1$$

$$\frac{y^2}{25} - \frac{x^2}{4} = 1$$

$C(0, 0)$

hyperbola



$$\left(-\frac{2}{2}\right)^2 = 1 \quad \left(\frac{4}{2}\right)^2 = 4$$

8. $x^2 + y^2 - 2x + 4y = 4$

$$x^2 - 2x + y^2 + 4y = 4$$

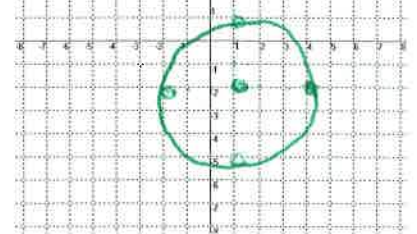
$$(x^2 - 2x + 1) + (y^2 + 4y + 4) = 4 + 1 + 4$$

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

circle

$C(1, -2)$

$r=3$



10. $x = 3y^2 - 24y + 45$

parabola

$$x = 3(y^2 - 8y) + 45$$

$$\left(-\frac{8}{2}\right)^2 = 16$$

$$x + 3 \cdot 16 = 3(y^2 - 8y + 16) + 45$$

$$x + 48 = 3(y-4)^2 + 45$$

$$-48 \qquad -45$$

$$x = 3(y-4)^2 - 3$$

$V(-3, 4)$

x	y
0	3
	2

$$\frac{3(4) - 3}{9}$$

