

Alg 2

Name: Key

Date: _____ Hour: _____

9.1/9.2 Conics Review

Solve for x by completing the square

1) $x^2 + 4x - 2 = 0$

2) $3x^2 - 24x + 63 = 0$

$x = 2 \pm \sqrt{6}$

$x = 4 \pm i\sqrt{5}$

Write the equation of a parabola whose: Vertex = (0, 0)

3) Directrix is $y = -5$

4) focus is (3, 0)

$x^2 = 20y$

$y^2 = 12x$

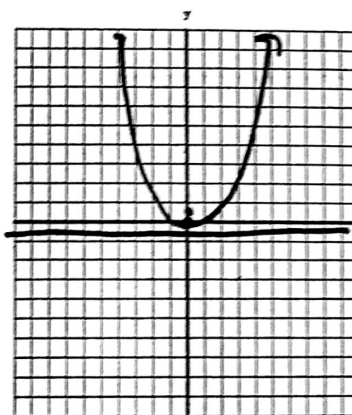
Determine the focus, the equation of the directrix and sketch the parabolas.

5) $y = 3x^2$

$V = (0, 0)$

$F = (0, \frac{1}{12})$

$D = y = -\frac{1}{12}$

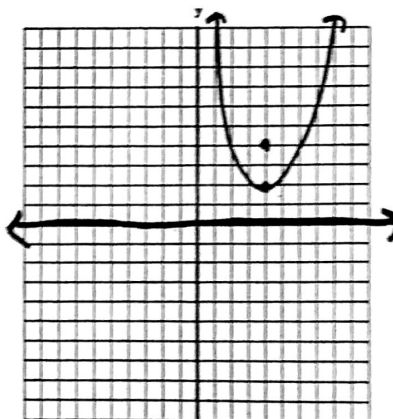


6) $(x - 4)^2 = 8(y - 2)$

$V = (4, 2)$

$F = (4, 4)$

$D = y = 0$



Write the equation for a circle with:

7) Center (0,0) radius = 7

$$x^2 + y^2 = 49$$

8) Center (0,0) radius = $\sqrt{13}$

$$x^2 + y^2 = 13$$

9) Center (-6,-8) radius = 9

$$(x+6)^2 + (y+8)^2 = 81$$

10) Center (7,5) radius = 4

$$(x-7)^2 + (y-5)^2 = 16$$

Write the equation of the circle in standard form and determine the center and the radius.

11) $x^2 + y^2 - 6x + 4y + 10 = 0$

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

$$C = (3, -2)$$

$$r = \sqrt{3}$$

12) $x^2 + y^2 + 2x + 8y + 1 = 0$

$$(x+1)^2 + (y+4)^2 = 16$$

$$C = (-1, -4)$$

$$r = 4$$

Write the equation of the parabola in standard form and determine the vertex, focus and directrix.

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

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

$$V = (-1, 2) \quad F = (-1, 3/4) \quad D = y = 2 1/4$$