

23, 24, 26, 25, 21

21. V: (0,0) contains (-3,3)

$$y - 0 = a(x - 0)^2$$

$$y = ax^2$$

$$3 = a(-3)^2$$

$$\frac{3}{9} = \frac{9a}{9}$$

$$a = \frac{1}{3}$$

$$y = \frac{1}{3}x^2$$

24. V(-2,6) y-int: -2

$$y - 6 = a(x + 2)^2$$

$$-2 - 6 = a(0 + 2)^2$$

$$-8 = a(2^2)$$

$$\frac{-8}{4} = \frac{4a}{4}$$

$$a = -2$$

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

23. V(3,5) y-int: 2

$$y - 5 = a(x - 3)^2$$

$$2 - 5 = a(0 - 3)^2$$

$$-3 = a(-3)^2$$

$$\frac{-3}{9} = \frac{9a}{9}$$

$$a = -\frac{1}{3}$$

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



$$25. v(4, 2) \quad x\text{-int: } 3$$

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

$$0 - 2 = a(3 - 4)^2$$

$$-2 = a(-1)^2$$

$$-2 = a$$

$$\boxed{y - 2 = -2(x - 4)^2}$$

$$26. v(-3, 4) \quad x\text{-int: } -1$$

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

$$0 - 4 = a(-1 + 3)^2$$

$$-4 = a(2)^2$$

$$\frac{-4}{4} = a(4)$$

$$a = -1$$

$$\boxed{y - 4 = -(x + 3)^2}$$

HW Assessment

5/12

22. $V(-3, 6)$ contains the origin

find the EQ of this parabola

$$1. \quad \begin{array}{r} 10x = -8y - 7 \\ -10x \quad -8y \end{array}$$

$$\frac{-8y}{-8} = \frac{-10x - 7}{-8}$$

$$y = \frac{5}{4}x + \frac{7}{8}$$

$$m = \frac{5}{4}$$

$$2. \quad \begin{array}{l} (-4, 2) \quad m = 3 \\ y = mx + b \\ -2 = 3(-4) + b \end{array}$$

$$\begin{array}{r} -2 = -12 + b \\ +12 \quad +12 \end{array}$$

$$b = 10$$

$$y = 3x + 10$$

$$3. \quad (-2, 5) \quad (8, 7)$$

$$m = \frac{\text{rise}}{\text{run}} = \frac{y_1 - y_2}{x_1 - x_2}$$

$$m = \frac{5 - 7}{-2 - 8} = \frac{-2}{-10} = \frac{1}{5}$$