

ALG 2

Ch 5 p. 255

Sec 5.3

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

① LOS $x=1$ ② $V(1, 2)$

③ $a=1$, " m " = $\frac{1}{1}$

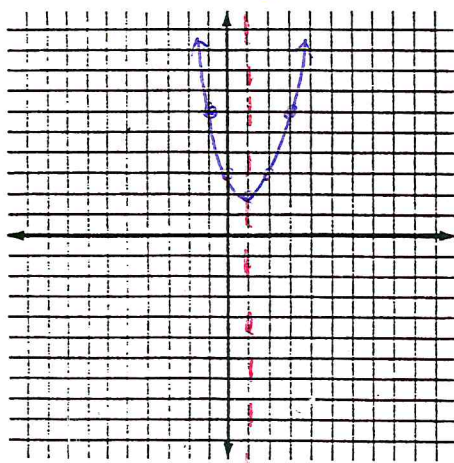
$(0, 3) + (2, 3)$

④ y -int; let $x=3$

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

$$2^2 + 2 = 4 + 2 = 6 \quad (3, 6)$$

By Symmetry $(-1, 6)$



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

① LOS $x=-3$ ② $V(-3, -4)$

③ $a=1$, " m " = $\frac{1}{1}$

$(-2, -3) + (-4, -3)$

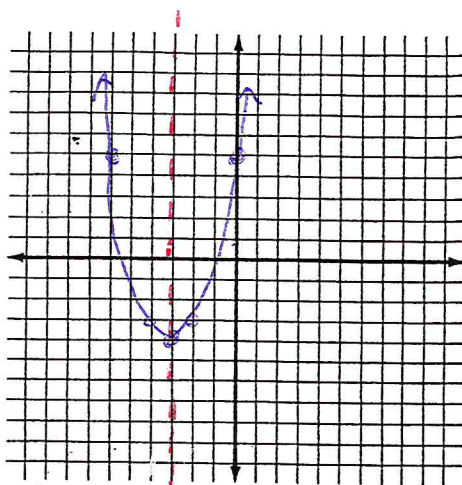
④ y -int set $x=0$

$$y = (0+3)^2 - 4$$

$$y = 3^2 - 4$$

$$y = 9 - 4 = 5 \quad (0, 5)$$

By Symmetry $(-6, 5)$



$$4. y = 2(x + 1)^2 + 0$$

① LOS $x=-1$ ② $V(-1, 0)$

③ $a=2$, " m " = $\frac{2}{1}$

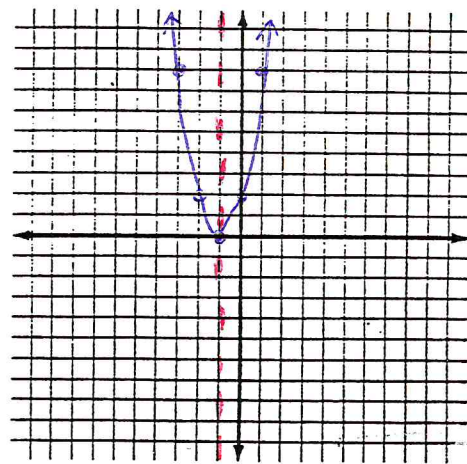
$(0, 2) + (-2, 2)$

④ y -int $\uparrow$ let $x=1$

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

$$y = 2(2)^2 = 2 \cdot 4 = 8 \quad (1, 8)$$

By Symmetry $(-3, 8)$



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

① LOS $x=2$ ② $V(2, 1)$

③ $a=-\frac{1}{2}$, " m " = $-\frac{1}{2}$

$(1, \frac{1}{2}) + (3, \frac{1}{2})$

④ y -int set $x=0$

$$y = -\frac{1}{2}(0-2)^2 + 1$$

$$y = -\frac{1}{2}(-2)^2 + 1$$

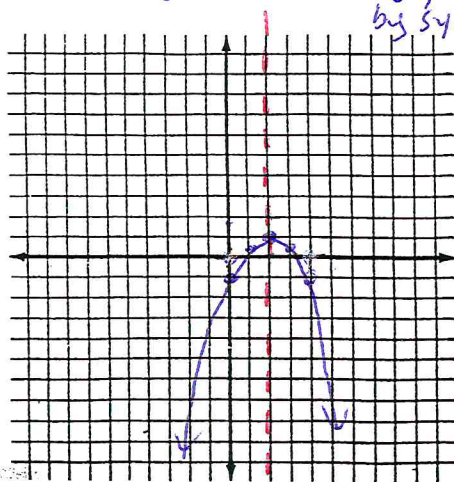
$$y = -\frac{1}{2}(4) + 1$$

$$y = -2 + 1 = -1$$

$(0, -1)$

$(4, -1)$

By Symmetry



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

① LOS $x=-2$ ② $V(-2, -3)$

③ $a=1$, " m " = $\frac{1}{1}$

$(-1, -2) + (-3, -2)$

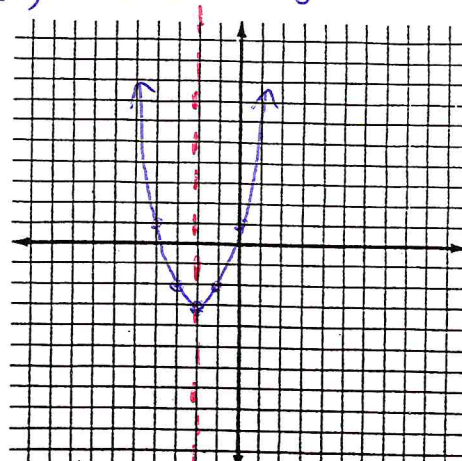
④ y -int set $x=0$

$$y = (0+2)^2 - 3$$

$$y = 2^2 - 3$$

$$y = 4 - 3 = 1 \quad (0, 1)$$

By Symmetry $(-4, 1)$



$$9. y = -(x - 1)^2 + 4$$

① LOS $x=1$ ② $V(1, 4)$

③ $a=-1$, " m " = $-\frac{1}{1}$

$(0, 3) + (2, 3)$

④ y -int $\uparrow$ let $x=3$

$$y = -(3-1)^2 + 4$$

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

$$y = -4 + 4 = 0 \quad (3, 0)$$

By Symmetry $(-1, 0)$

