

10.1 continued

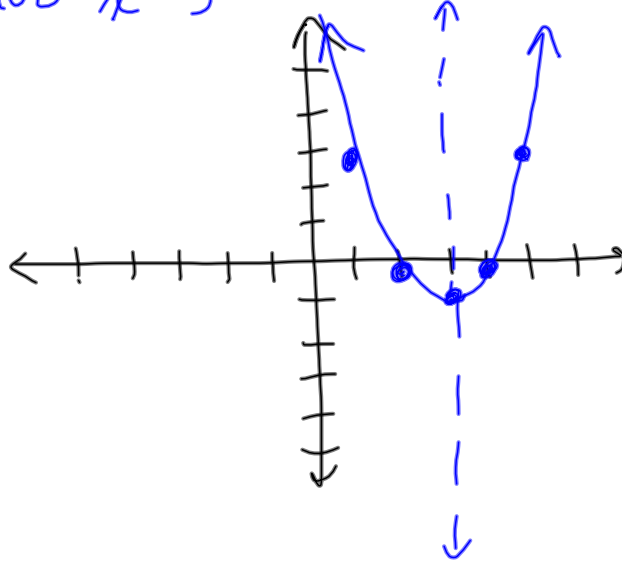
Compare graphs to $y = x^2$, noting any transformations. Then graph.

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

V: $(3, -1)$

axis: $x = 3$

right 3 units
down 1 unit

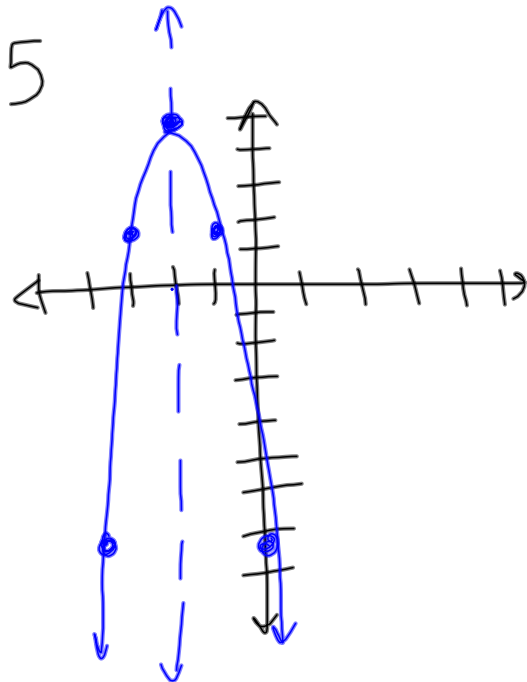


x	y	
4	0	$(4-3)^2 - 1$ $(1)^2 - 1$ $1 - 1$
5	3	$(5-3)^2 - 1$ $2^2 - 1$ $4 - 1$ 3

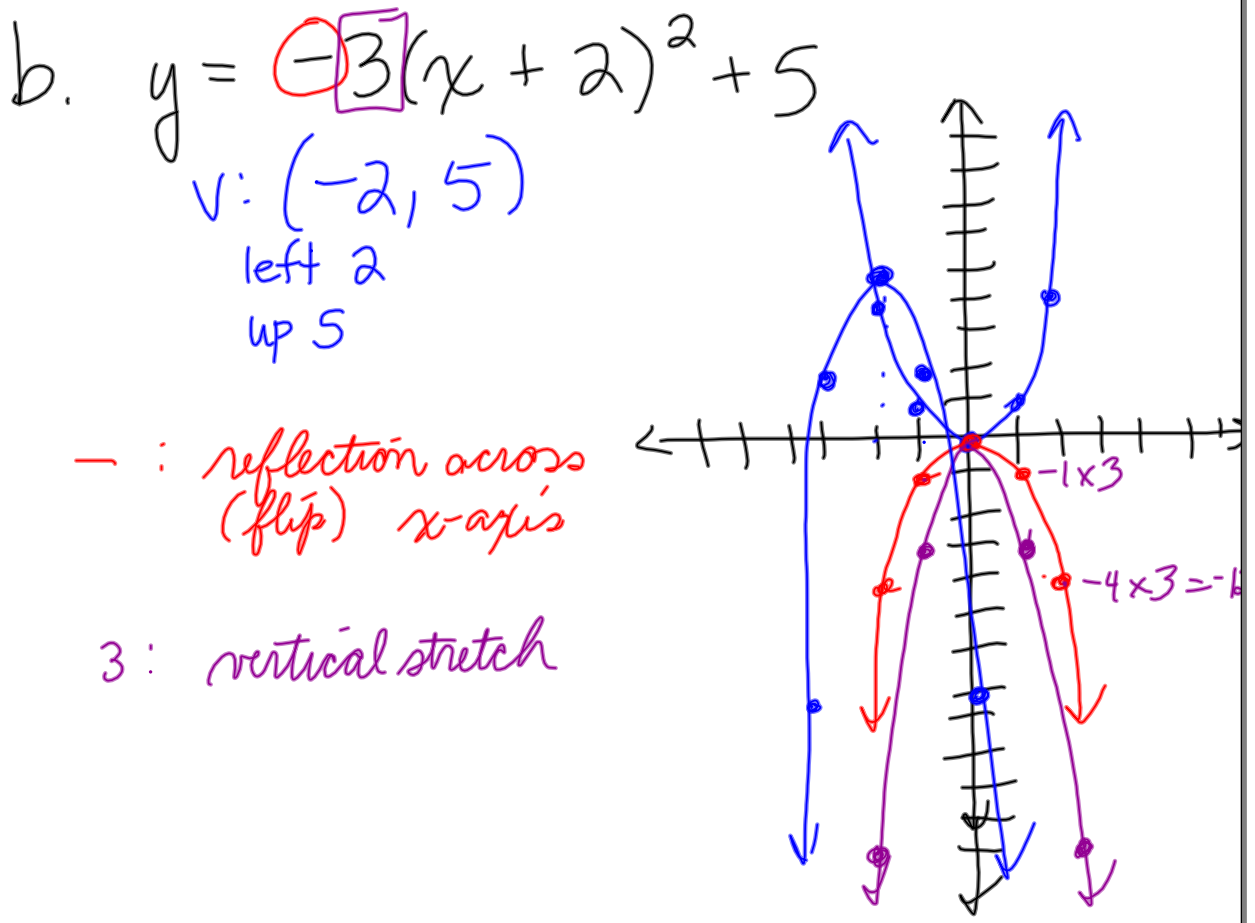
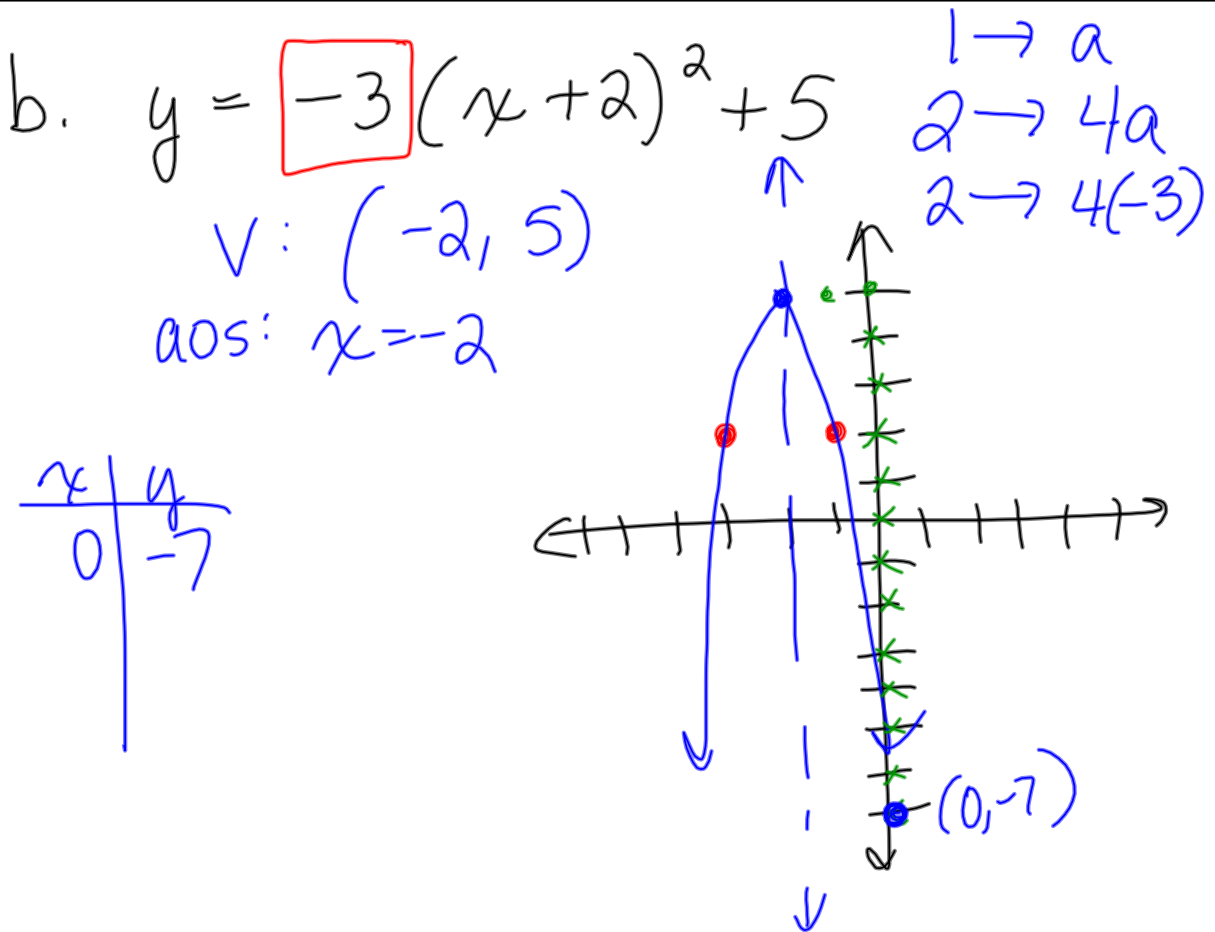
b. $y = -3(x+2)^2 + 5$

V: $(-2, 5)$

axis: $x = -2$



x	y	
-1	2	$-3(-1+2)^2 + 5$
0	-7	$-3(1)^2 + 5$ $-3 + 5$ 2
		$-3(0+2)^2 + 5$
		$-3(2)^2 + 5$
		$-3 \cdot 4 + 5 = -12 + 5 = -7$



c. $y = \boxed{\frac{1}{2}}(x-2)^2 - 1$

v: $(2, -1)$

aos: $x = 2$

x	y
3	$\frac{1}{2}$
4	1

$$\frac{1}{2}(3-2)^2 - 1$$

$$\frac{1}{2}(1)^2 - 1$$

$$\frac{1}{2} \cdot 1 - 1$$

$$\frac{1}{2} - 1 = -\frac{1}{2}$$

$$\frac{1}{2}(4-2)^2 - 1$$

$$\frac{1}{2}(2)^2 - 1 = \frac{1}{2} \cdot 4 - 1$$

$$2 - 1$$

