

$$(14) \quad 7x^2 + 6x + 2 = 0$$

$$b^2 - 4(7)(2)$$

$$36 - 56$$

$$x = \frac{-6 \pm \sqrt{-20}}{2(7)}$$

$$= \frac{-6 \pm 2i\sqrt{5}}{14}$$

$$a. \quad -20$$

$$b. \quad 2 \text{ complex}$$

$$c. \quad \frac{-3 \pm i\sqrt{5}}{7}$$

$$\sqrt{-20}$$

$$\sqrt{20} \sqrt{-1}$$

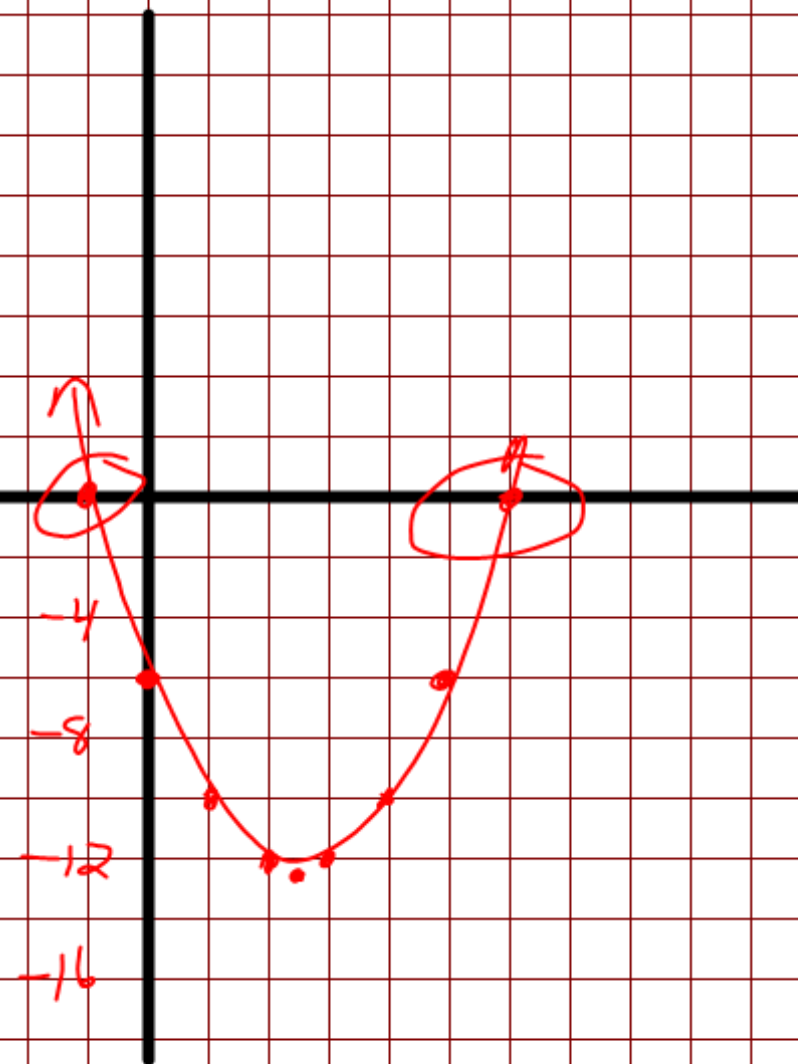
$$\sqrt{4} \sqrt{5}$$

$$\textcircled{3} \quad 0 = x^2 - 5x - 6$$

$$-\frac{(-5)}{2(1)} = \frac{5}{2}$$

X	Y
-1	0
0	-6
1	-10
2	-12
$\frac{5}{2}$	-12.25
3	-10
4	-6
5	0
6	

-1, 6



$$y = x^2$$

x	y
-2	4
-1	1
0	0
1	1
2	4

$$y = -x^2$$

x	y
-2	-4
-1	-1
0	0
1	-1
2	-4

# Parent Graph/Function



vertex:  $(0, 0)$

axis:  $x = 0$

opens: up

min: 0

vertex:  $(0, 0)$

axis:  $x = 0$

opens: down

max: 0

$$y = 2x^2$$

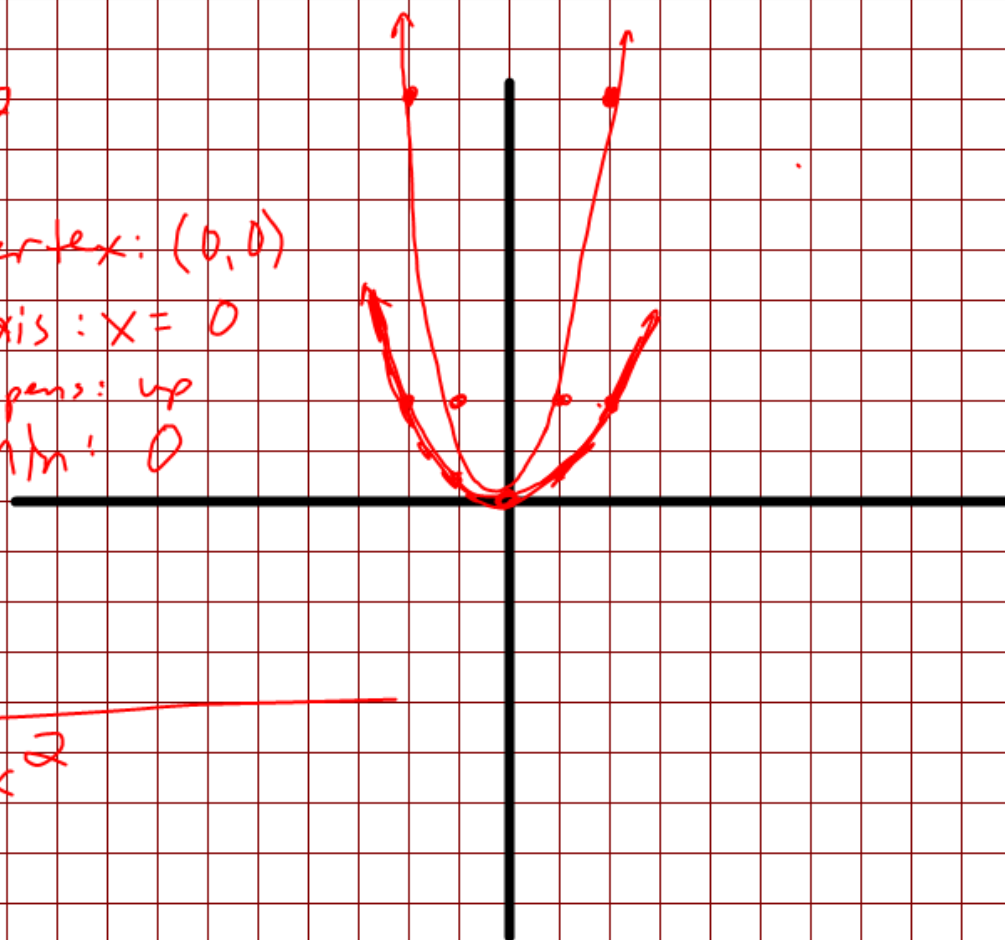
X	Y
-2	8
-1	2
0	0
1	2
2	8

vertex: (0,0)

axis:  $x = 0$

opens: up

min: 0



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

X	Y
-2	2
-1	0.5
0	0
1	0.5
2	2

$$y = x^2 + 5$$

x	y
-2	9
-1	6
0	5
1	6
2	9

Vertex (0, 5)

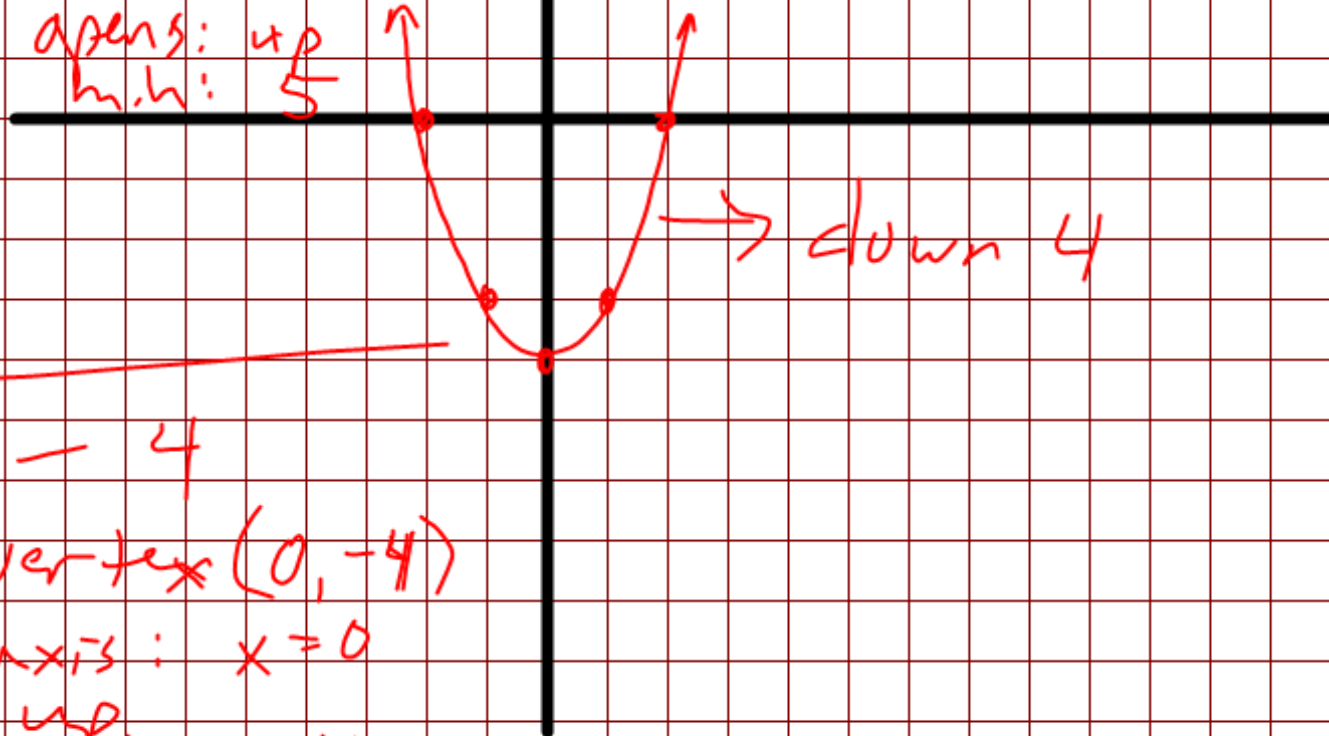
axis:  $x = 0$

opens: up

m.h: 5

translation/slide

→ up 5



→ down 4

$$y = x^2 - 4$$

x	y
-2	0
-1	-3
0	-4
1	-3
2	0

Vertex (0, -4)

axis:  $x = 0$

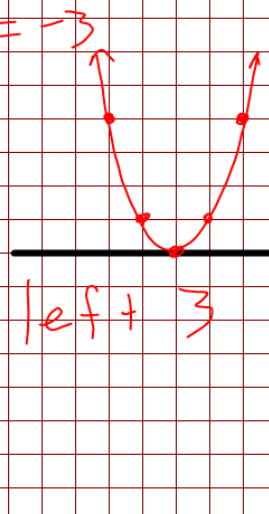
up

m.h = -4

$$y = (x + 3)^2 = (x + 3)(x + 3) = x^2 + 6x + 9$$

$$-\frac{(6)}{2(1)} = -3$$

x	y
-5	4
-4	1
-3	0
-2	1
-1	4



vertex  $(-3, 0)$

axis:  $x = -3$

up  
min: 0

translation/slide

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

right + 2

vertex  $(2, 0)$

axis  $x = 2$

up  
min: 0

Vertex Form

$$y = a(x - h)^2 + k$$

vertex  $(h, k)$

axis  $x = h$

Standard

$$y = ax^2 + bx + c$$