

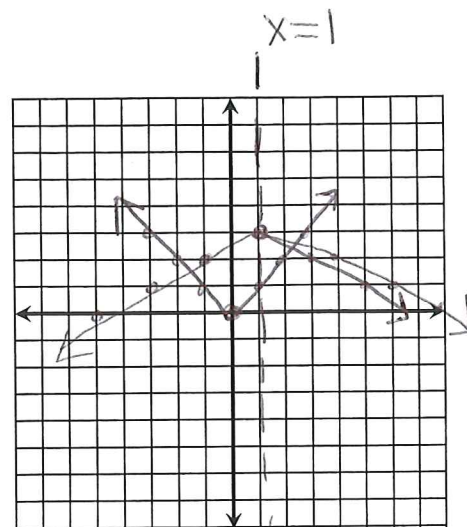
1. Describe the transformations from the parent function  $f(x) = |x|$ . Then graph each equation using transformations.

$$f(x) = -\frac{1}{2}|x-1|+3$$

b: 1 right  
c: r.o x axis / V.C by  $\frac{1}{2}$   
d: up 3

Vertex is (1, 3)

The equation for the axis of symmetry is  $x=1$



The general form of the Absolute Value function is  $y = a|x-h|+k$

The stretch or compression factor is  $a$

(     and      are the      of the 2 parts of my graph)

The vertex is  $(h, k)$ .

The axis of symmetry is the line  $x=h$

Without graphing, identify the vertex, the axis of symmetry, and the x- and y-intercepts.

2.  $y = -2|x|+4$

vertex (0, 4)  
 $x=0$

3.  $y = 7-|x+3|$

$y = -|x+3|+7$   
vertex (-3, 7)  
 $x = -3$

To graph absolute value functions using a t-chart.

- 1) Find the vertex  $(h, k)$
- 2) Put the vertex in the middle of the t-chart and choose the next two integers greater and less than the  $x$ -coordinate
- 3) Substitute those  $x$  values into the equation and find  $y$ . (Notice the symmetry.)
- 4) Graph the ordered pairs

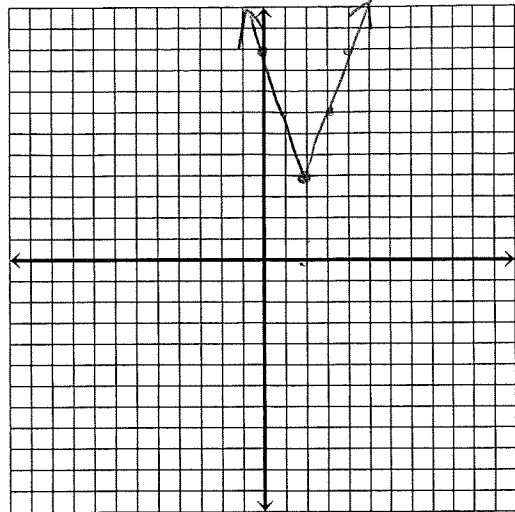
Graph each absolute value equation using a t-chart.

4.  $y = 3|x - 2| + 4$

$(2, 4)$

$x = 2$

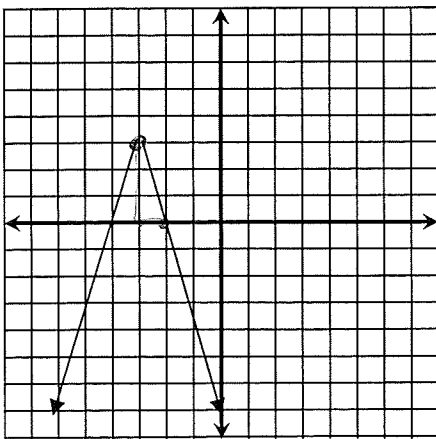
x	y



Write an absolute value equation for each graph.

5.  $f(x) = -3|x + 3| + 3$

$(-3, 3)$



6.  $y = \frac{1}{2}|x - 3| + 2$

$(3, 2)$

