Inside = Side to Side

|x| + 3

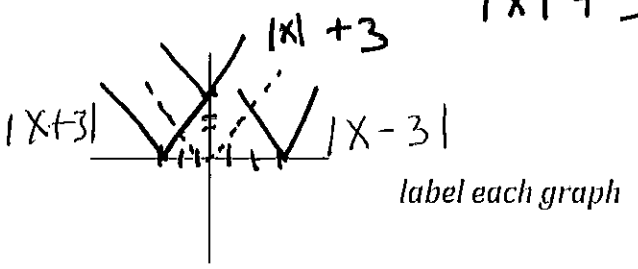
Part II - Horizontal Translation or Shift (Inside):

A. $f(x) = |x|$

Graph $y_1 = |x|$ *(dashed)*

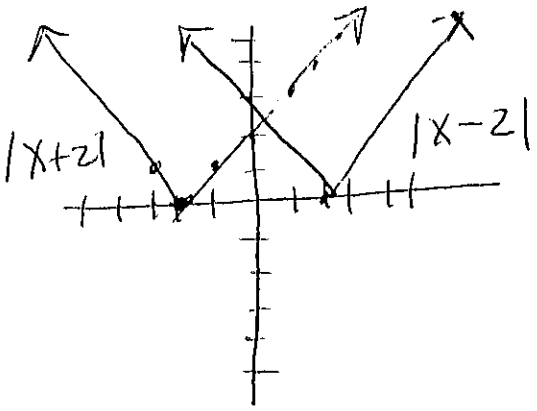
Graph $y_2 = |x+3|$

change y_2 to $y_2 = |x-3|$



label each graph

x	$f(x) = \|x+2\|$	$f(x) = \|x-2\|$
-3	|-1| = 1	
-2	|0| = 0	
-1	|1| = 1	
0	|2| = 2	
1	|3| = 3	
2	|4| = 4	
3	|5| = 5	

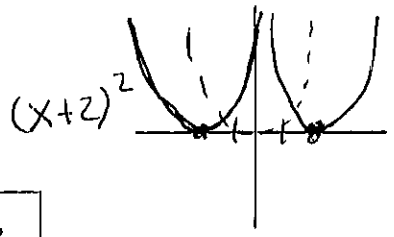


B. $f(x) = x^2$

Graph $y_1 = x^2$ *(dashed)*

Graph $y_2 = (x+2)^2$

change y_2 to $(x-2)^2$



label each graph

x	$f(x) = (x+2)^2$	$f(x) = (x-2)^2$
-3		
-2		
-1		
0		
1		
2		
3		

$y = (x+2)^2$ = Vertex (-2, 0)

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

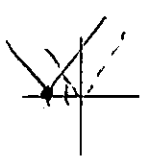
C. Explain how a parent graph moves when adding on the "inside" and subtracting on the "inside."

+ = go left — = go right (opposite)

Graph the functions *without* a calculator *(first draw the parent graph using dotted lines)*

1) $f(x) = |x+2|$

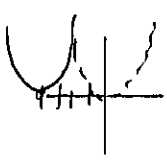
parent:



Parent vertex (0, 0)
New vertex (-2, 0)

2) $f(x) = (x+4)^2$

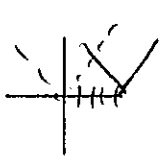
parent:



Parent vertex (0, 0)
New vertex (-4, 0)

3) $f(x) = |x-4|$

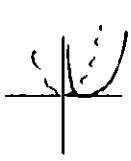
parent:



Parent vertex (0, 0)
New vertex (4, 0)

4) $f(x) = (x-1)^2$

parent:



Parent vertex (0, 0)
New vertex (1, 0)

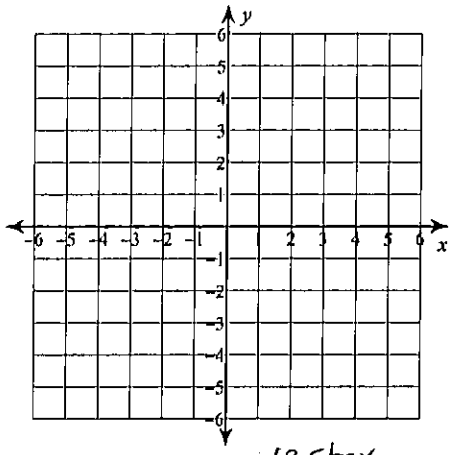
Algebra 2 Name_____

Assignment

Date_____ Period____

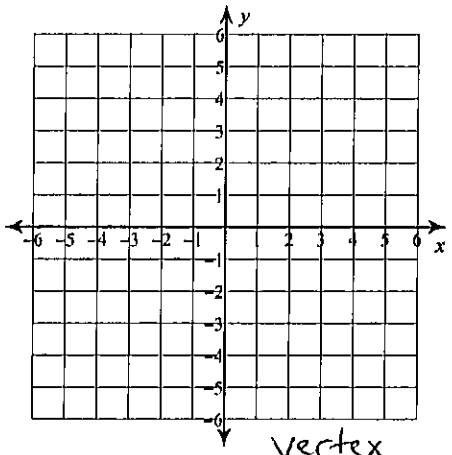
Graph each equation. Draw the parent graph with a dotted line. Label the vertex in the form (,)

1) $y = |x - 2|$



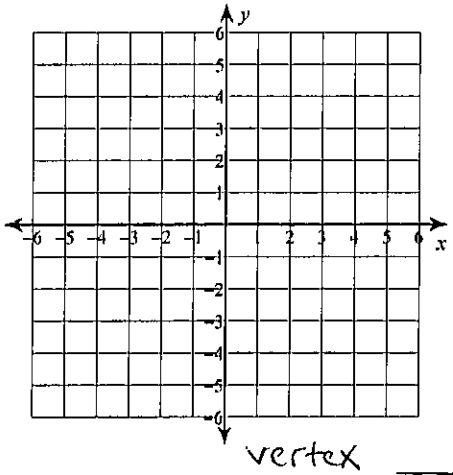
vertex _____

2) $y = |x + 2|$



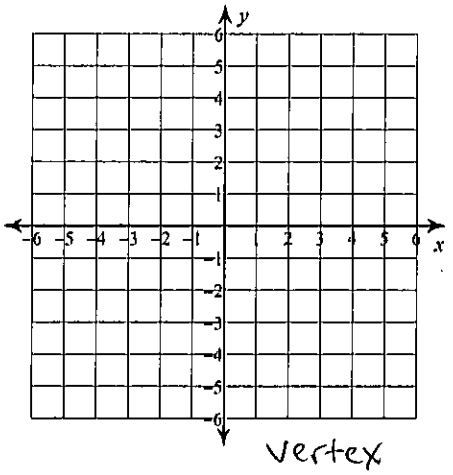
Vertex _____

3) $y = |x + 1|$



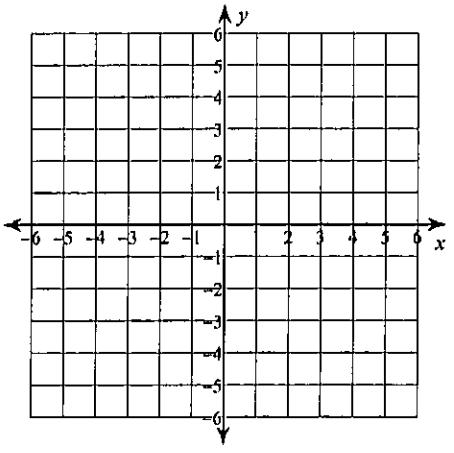
vertex _____

4) $y = |x + 4|$



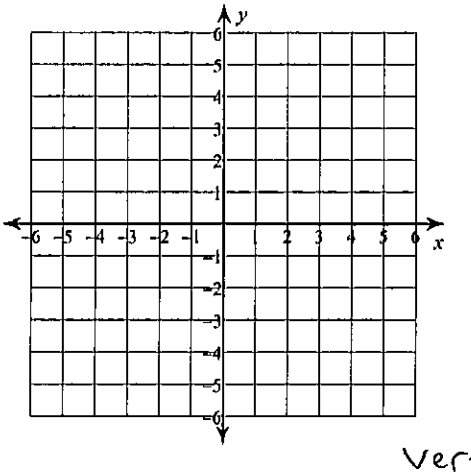
Vertex _____

5) $y = |x - 3|$



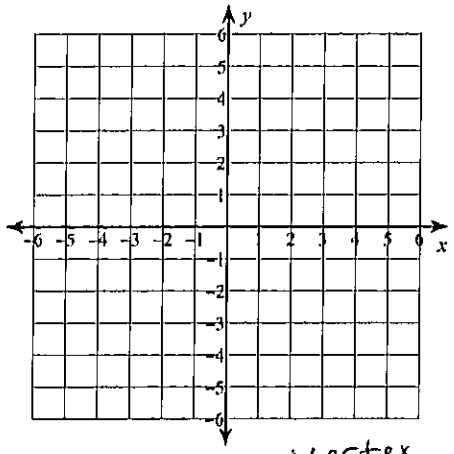
Vertex _____

6) $y = |x - 4|$



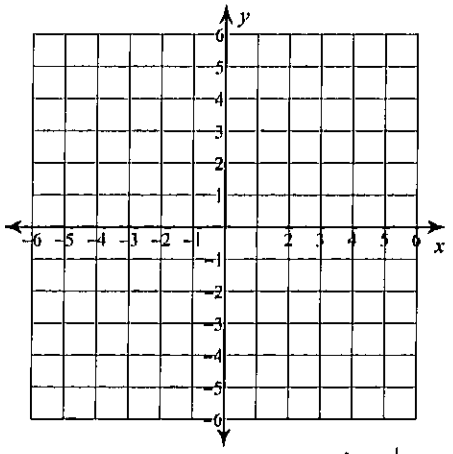
Vertex _____

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



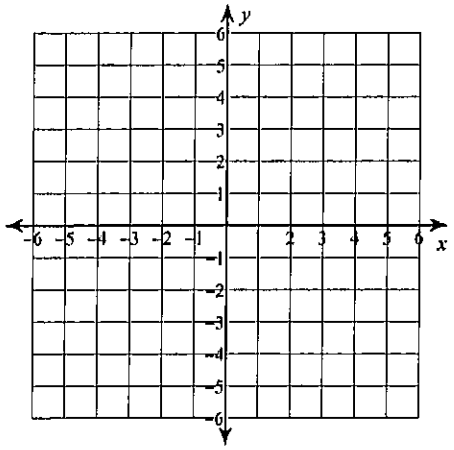
Vertex _____

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



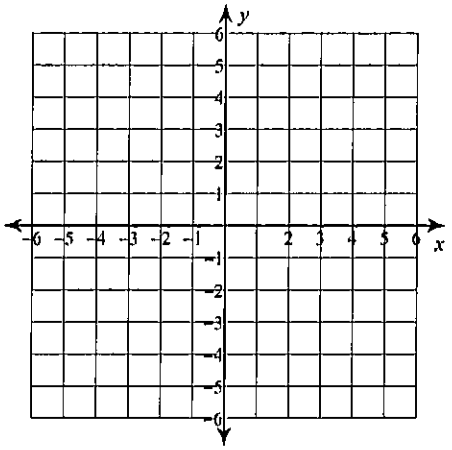
Vertex _____

9) $y = |x-1|$



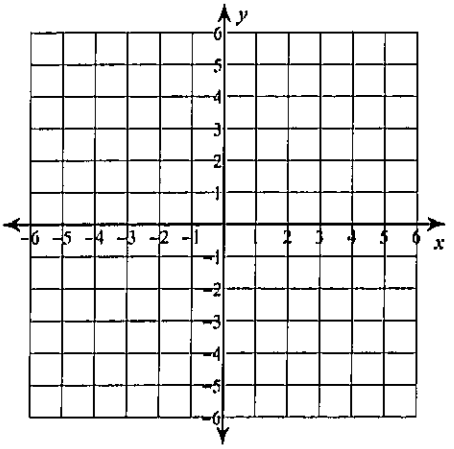
Vertex _____

10) $y = |x+3|$



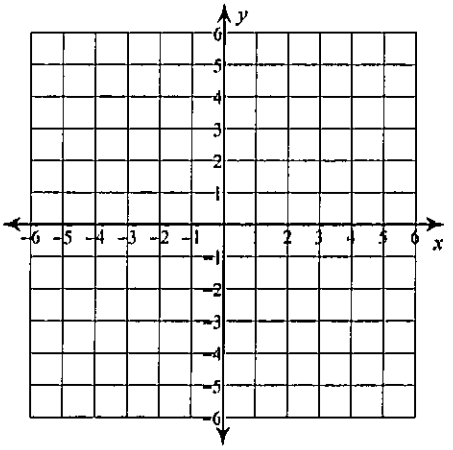
Vertex _____

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



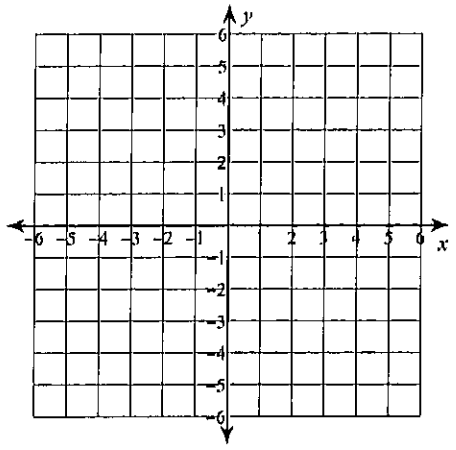
Vertex _____

12) $y = (x+2)^2$



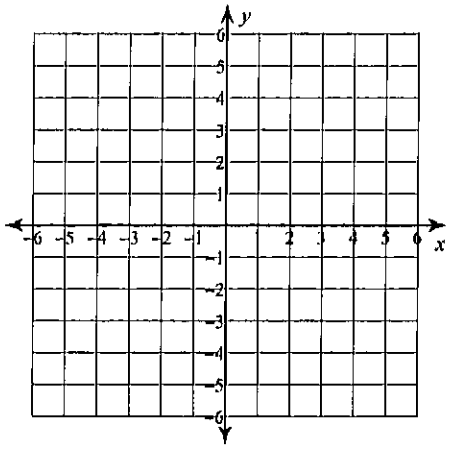
Vertex _____

13) $y = |x - 5|$



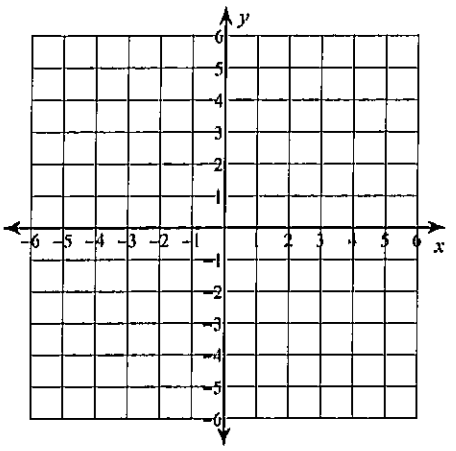
vertex _____

14) $y = |x + 5|$



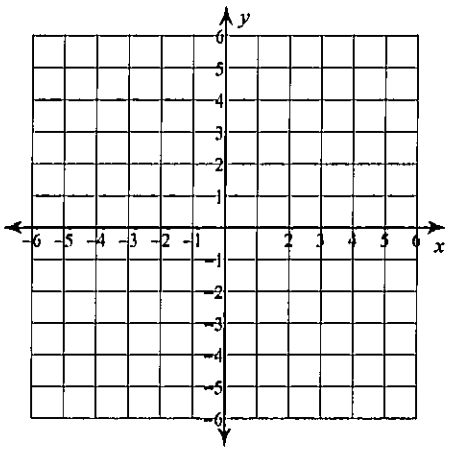
vertex _____

15) $y = (x + 5)^2$



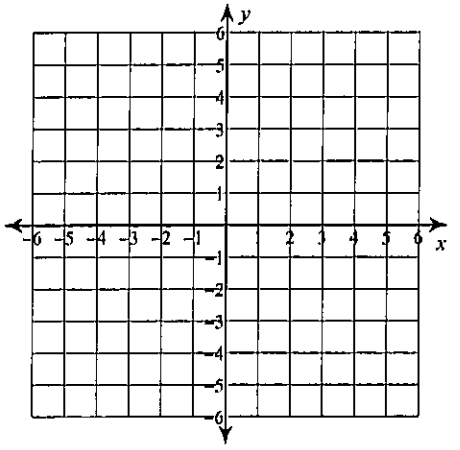
vertex _____

16) $y = (x - 1)^2$



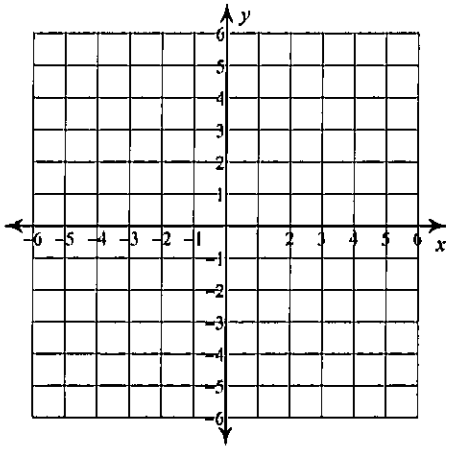
vertex _____

17) $y = (x + 3)^2$



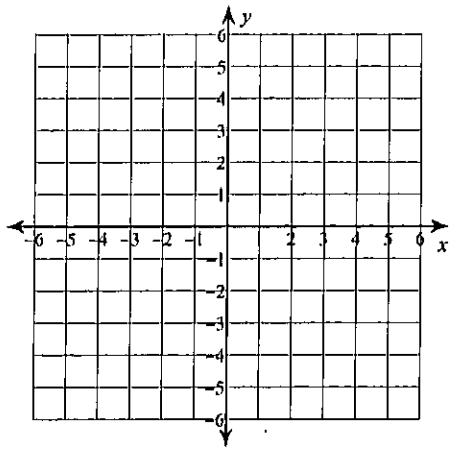
Vertex _____

18) $y = (x - 5)^2$



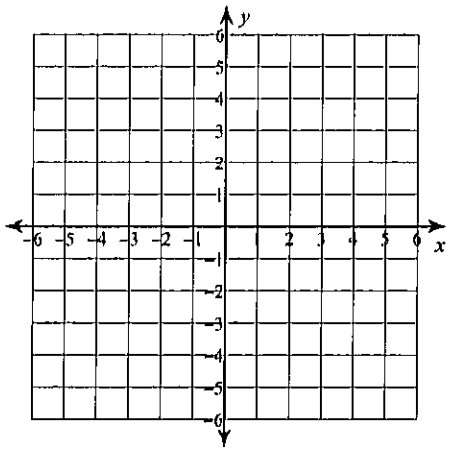
vertex _____

19) $y = |x + 2| - 1$



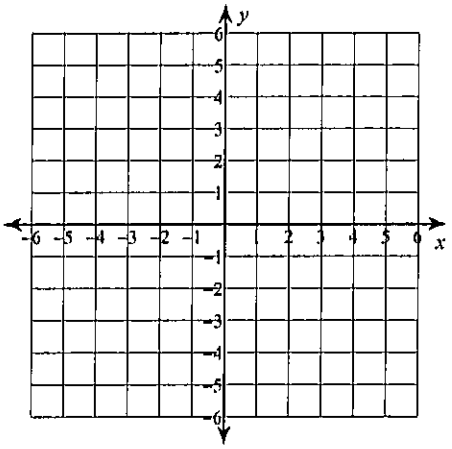
vertex _____

20) $y = |x + 4| + 3$



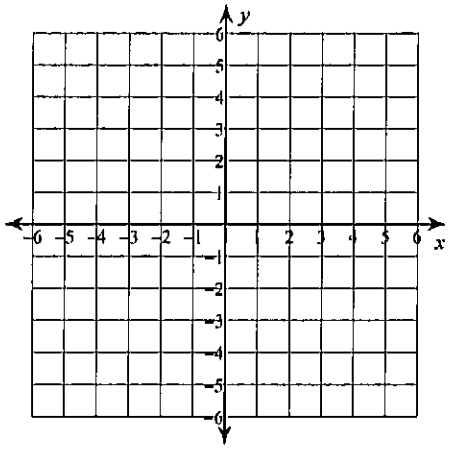
vertex _____

21) $y = |x - 4| - 2$



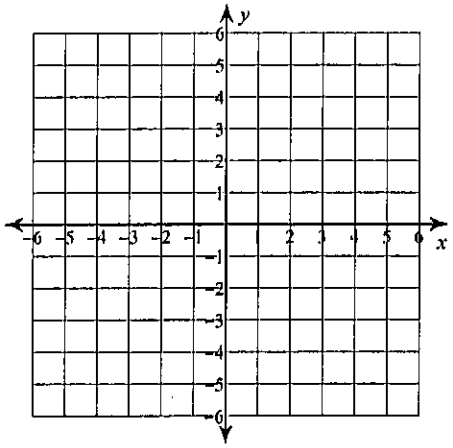
vertex _____

22) $y = |x + 4| + 2$



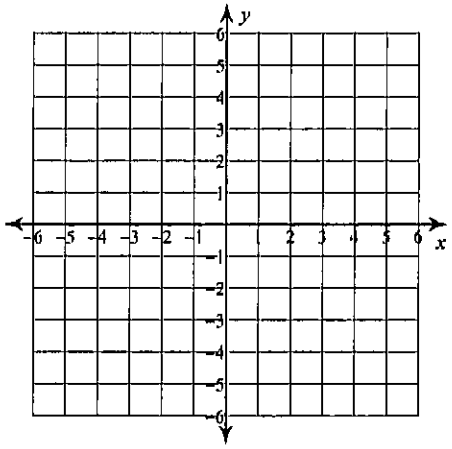
vertex _____

23) $y = |x + 3| + 4$



vertex _____

24) $y = |x - 2| - 4$



vertex _____

Sudoku #1

2		5			7			6
4			9	6			2	
				8			4	5
9	8			7	4			
5	7		8		2		6	9
			6	3			5	7
7	5			2				
	6		7	5	1			2
3			4			5		8

The phrase "we(I)(you) simply MUST ... " designates something that need not be done. "That goes without saying" is a red warning. "Of course" means you had best check it yourself. These small-change cliches and others like them, when read correctly, are reliable channel markers.
– Lazarus Long

Fill in the blank squares so that each row, each column and each 3-by-3 block contain all of the digits 1 thru 9.

If you use logic you can solve the puzzle without guesswork.

Need a little help? The hints page shows a logical order to solve the puzzle. Use it to identify the next square you should solve. Or use the answers page if you really get stuck.