Name: _____ Date: _____

Absolute Value Transformations $f(x) = a\left| b(x-h) \right| + k$ Vertex : _____

a : _____ **h :** _____

b: _____ **k :** _____

Describe the transformations:

1. $f(x) = |x+1| - 3$

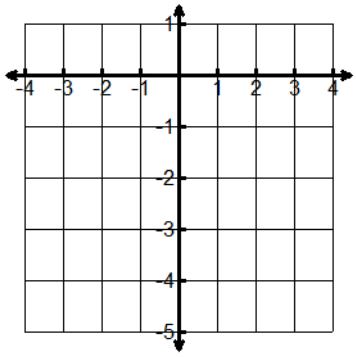
2. $f(x) = -|x| + 4$

3. $f(x) = 2|-x+1|$

4. $f(x) = |2x+6| - 1$

Graph the following absolute value functions using transformations

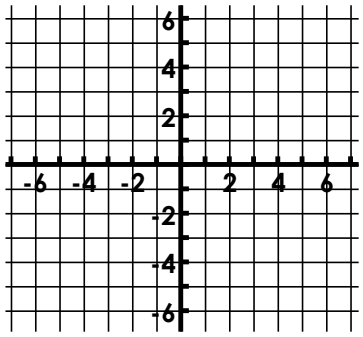
5. $f(x) = 2|x-1| - 4$



Vertex _____

Transformations:

6. $f(x) = -|3x+3| + 1$

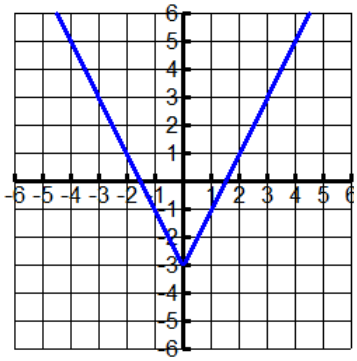


Vertex _____

Transformations:

Write the equation of the absolute value given the graph.

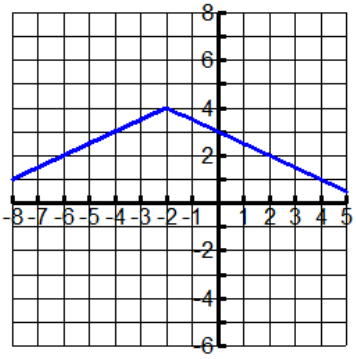
7. f(x) = _____



Vertex _____

a: _____

8. f(x) = _____



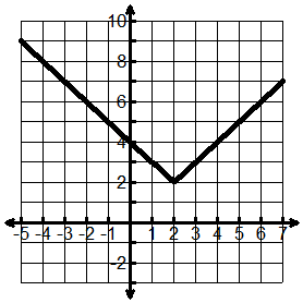
Vertex _____

a: _____

You try!! Write the equation of the absolute value given the graph.

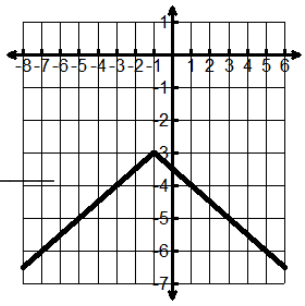
9.

f(x) = _____



10.

f(x) = _____



Solving Absolute Value Equations: $|ax+b|=c$, *where* $c>0$

- Isolate the absolute value, then split into 2 equations: $ax+b=c$ or $ax+b=-c$
- ALWAYS check for extraneous solutions!

11. Solve for x: $|x-3|=6$

12. Solve for x: $|6x-3|=15$

13. $|2x+7|-3=8$

14. $3|2x-5|+7=1$

15. $|4x+10|=6x$

16. $|x+2|=x^2$