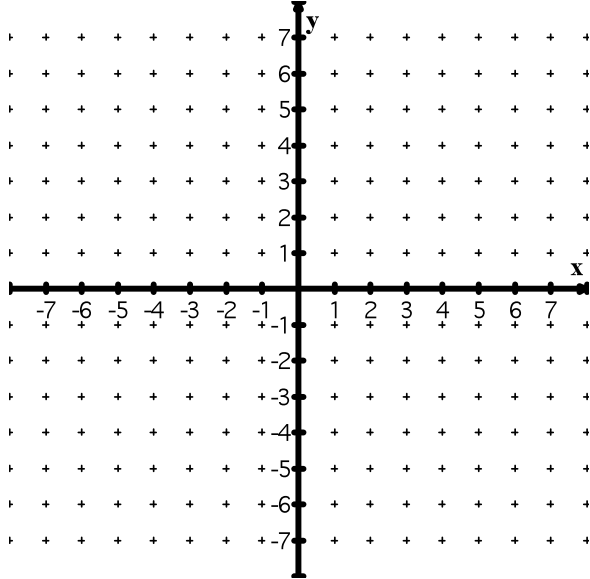


PIECEWISE FUNCTIONS

NAME: _____

BLOCK: _____

1. Graph the Absolute Value Parent Function: _____



	EQUATION	DOMAIN
1		
2		

2. Evaluate the piecewise function:

- a) $f(3)$ Which equation: _____ $f(3) =$ _____
- b) $f(-10)$ Which equation: _____ $f(-10) =$ _____
- c) $f(9)$ Which equation: _____ $f(9) =$ _____
- d) $f(4)$ Which equation: _____ $f(4) =$ _____
- e) $f(-1)$ Which equation: _____ $f(-1) =$ _____
- f) $f(100)$ Which equation: _____ $f(100) =$ _____
- g) $f(-7)$ Which equation: _____ $f(-7) =$ _____
- h) $f(0)$ Which equation: _____ $f(0) =$ _____

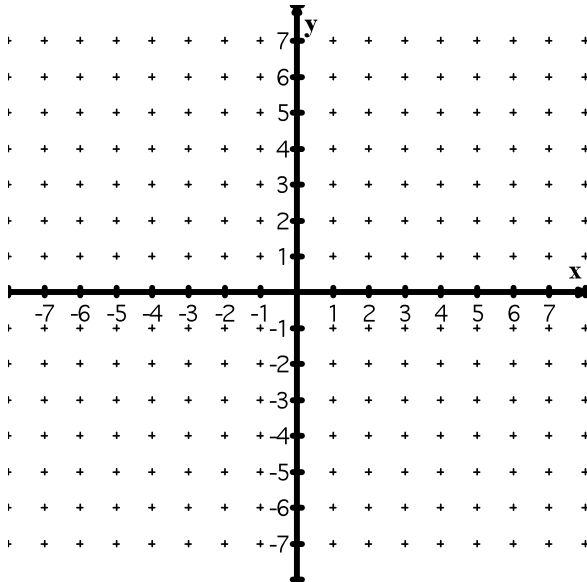
INSTRUCTIONS ON GRAPHING PIECEWISE FUNCTIONS!

- a. Graph the boundary line.
- b. Graph equation 1 (only over the correct domain).
- c. Graph equation 2 (only over the correct domain).
- d. Check that: The graph is a function!
There is an open circle where it should be!

3. This is an example of a piecewise function:

$$f(x) = \begin{cases} x + 2; & x < 1 \\ -x; & x \geq 1 \end{cases}$$

1		
2		

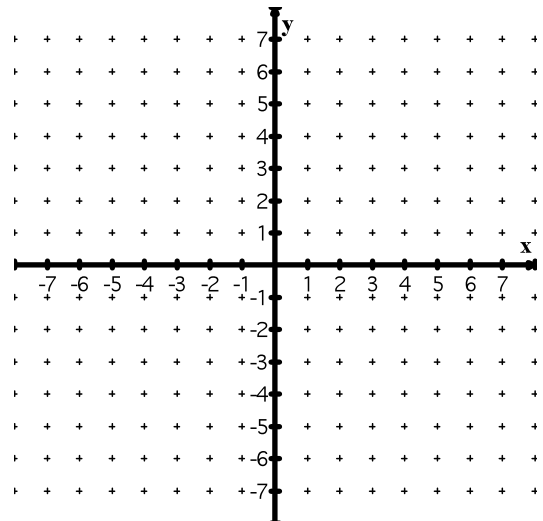
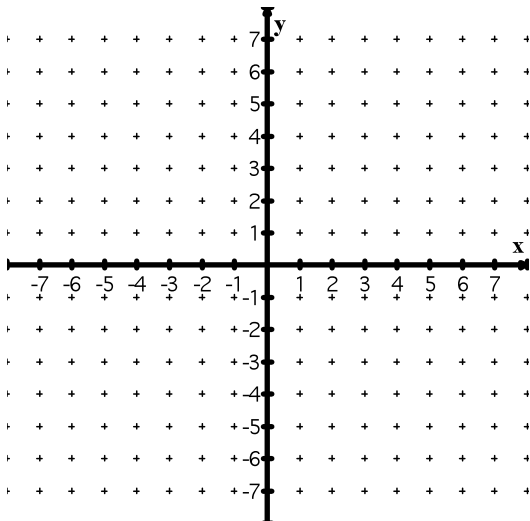


YOU TRY → Graph the piecewise functions

1. $h(x) = \begin{cases} -\frac{3}{2}x + 1; & x < 4 \\ -2; & x \geq 4 \end{cases}$

2.

$$g(x) = \begin{cases} 2x + 5; & x \geq -3 \\ \frac{1}{3}x + 4; & x < -3 \end{cases}$$



Evaluate the piecewise function for the given values.

$$1. f(x) = \begin{cases} 2x - 3; & x < -2 \\ -\frac{1}{3}x + 1; & x \geq -2 \end{cases}$$

a. $f(-4) = \underline{\hspace{2cm}}$

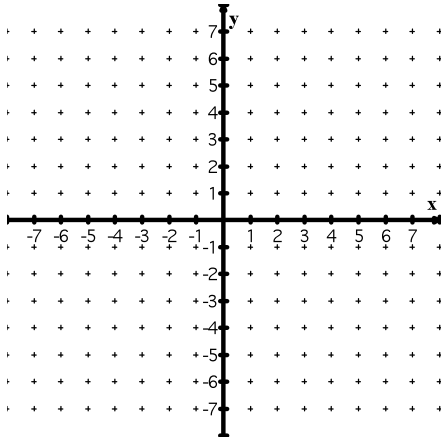
b. $f(-2) = \underline{\hspace{2cm}}$

c. $f\left(\frac{1}{2}\right) = \underline{\hspace{2cm}}$

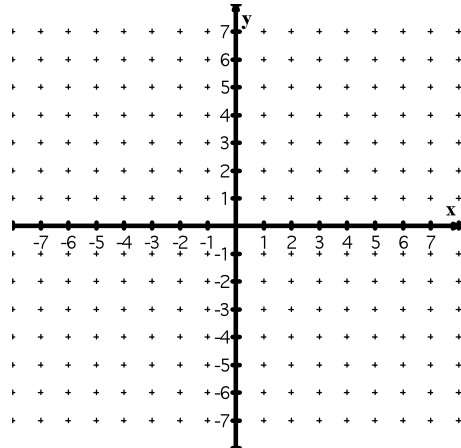
d. $f(8) = \underline{\hspace{2cm}}$

Graph the following piecewise functions.

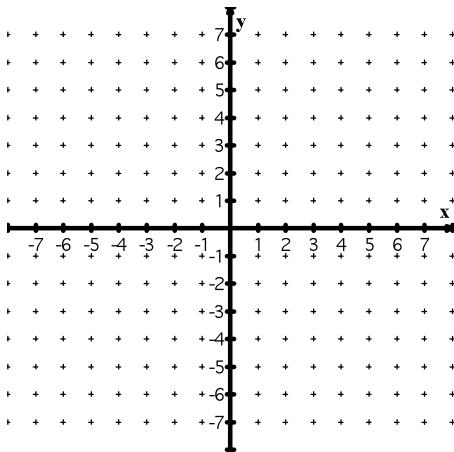
$$2. g(x) = \begin{cases} -\frac{4}{3}x + 2; & x < 0 \\ -3x + 2; & x \geq 0 \end{cases}$$



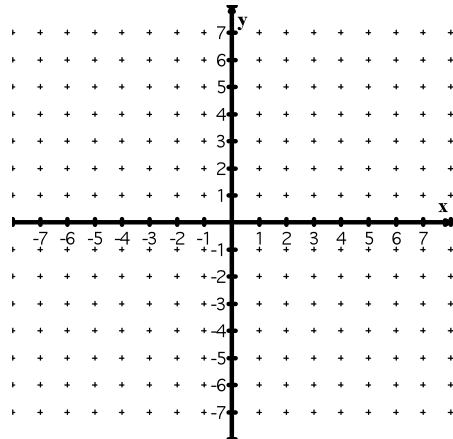
$$3. f(x) = \begin{cases} 2x + 3; & x \leq -1 \\ x + 5; & x > -1 \end{cases}$$



$$3. h(x) = \begin{cases} -3; & x \leq 2 \\ 4; & x > 2 \end{cases}$$

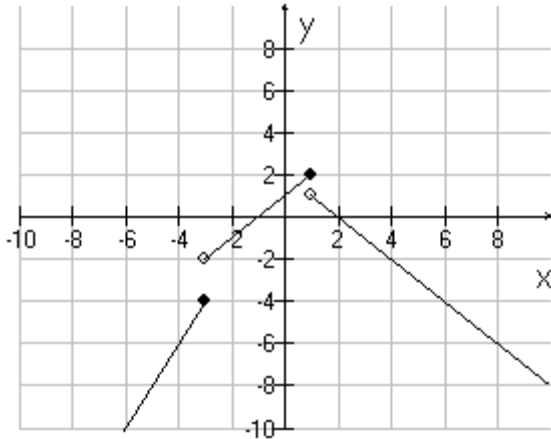


$$4. g(x) = \begin{cases} \frac{1}{3}x - 4; & x < 3 \\ -\frac{1}{3}x + 1; & x \geq 3 \end{cases}$$



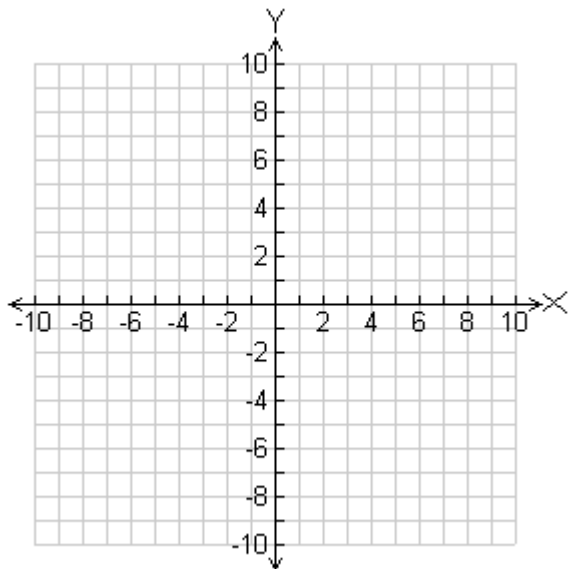
CHALLENGES

1) Determine the function that describes the graph below



2) Graph the following function.

$$f(x) = \begin{cases} 3x+1 & x \leq 0 \\ -\frac{1}{2}x & 0 < x < 4 \\ \frac{1}{2}x-4 & x \geq 4 \end{cases}$$



3) Graph the following function

$$g(x) = \begin{cases} 2x+2 & 0 \leq x \leq 3 \\ 8 & 3 < x < 6 \\ -2x+20 & 6 \leq x \leq 10 \end{cases}$$

