

Name \_\_\_\_\_

## Worksheet - Piecewise Functions

Evaluate the following for  $f(x) = \begin{cases} 3x - 5, & x > 4 \\ x^2, & x \leq 4 \end{cases}$ :

1.  $f(7)$

2.  $f(4)$

3.  $f(-3)$

Evaluate the following for  $f(x) = \begin{cases} -2|x+1|, & x \leq 1 \\ 3, & 1 < x < 3 \\ 6 - 2x, & x \geq 3 \end{cases}$ :

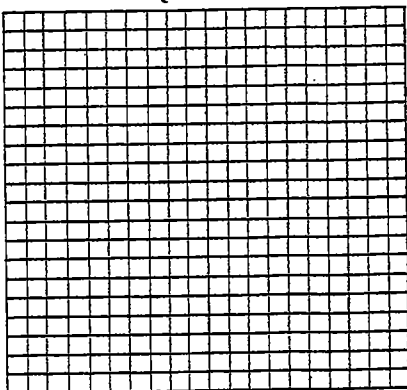
4.  $f(10)$

5.  $f(2)$

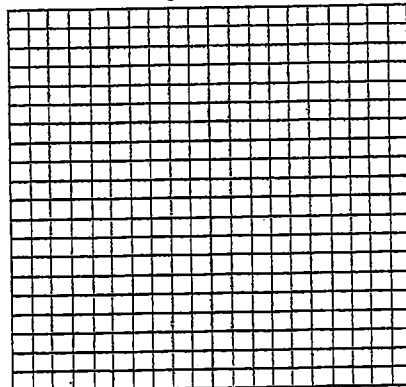
6.  $f(0)$

Graph the following piecewise functions.

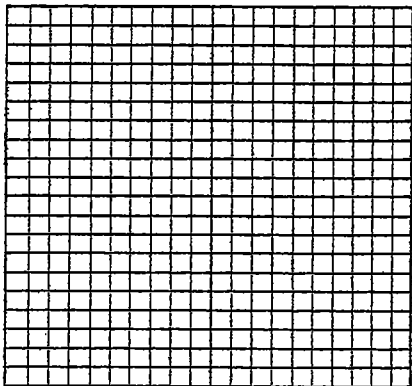
7.  $f(x) = \begin{cases} -2, & x < 0 \\ 3, & x \geq 0 \end{cases}$



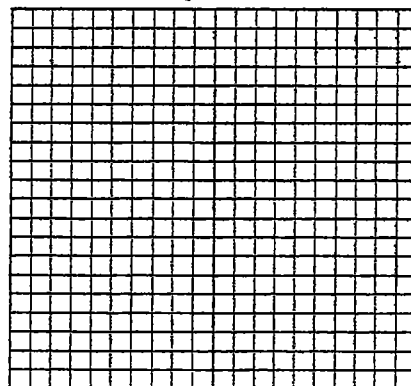
8.  $g(x) = \begin{cases} -x + 2, & x < 2 \\ x - 2, & x \geq 2 \end{cases}$



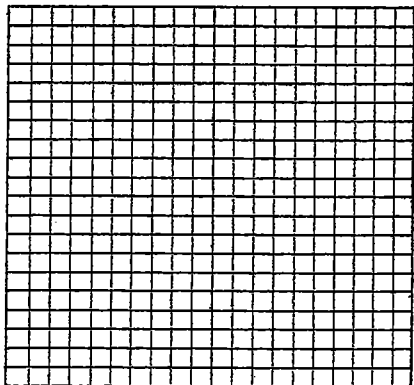
$$9. h(x) = \begin{cases} -3x+2, & x \leq 2 \\ \frac{1}{2}x-4, & x > 2 \end{cases}$$



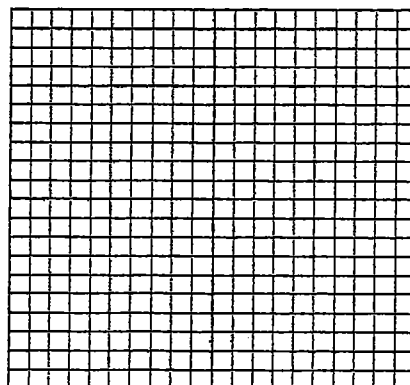
$$10. f(x) = \begin{cases} 4, & x \leq -2 \\ x^2, & -2 < x < 2 \\ 4, & x \geq 2 \end{cases}$$



$$11. g(x) = \begin{cases} 3x+12, & x \leq -3 \\ |x|, & -3 < x < 3 \\ -3x+12, & x \geq 3 \end{cases}$$



$$12. h(x) = \begin{cases} x^2-4, & x < 3 \\ \frac{2}{3}x-5, & x \geq 3 \end{cases}$$



13. Which of the piecewise functions are continuous?

14. Which of the piecewise functions are discontinuous?