

Use the piecewise function to evaluate the following.

1.
$$f(x) = \begin{cases} 4x^2 - 1, & x \leq -2 \\ -x, & x > -2 \end{cases}$$

a. $f(0) =$

b. $f(5) =$

c. $f(-2) =$

d. $f(-3) =$

2.

$$f(x) = \begin{cases} -7x + 4x^2, & x \leq -3 \\ 8x, & -3 < x \leq 3 \\ 7 - x, & x > 3 \end{cases}$$

a. $f(-5) =$

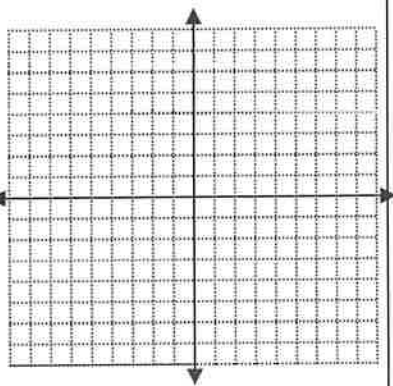
b. $f(0.5) =$

c. $f(0) =$

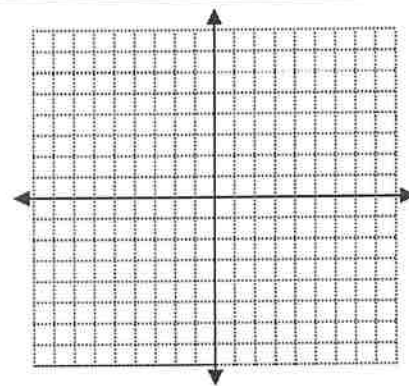
d. $f(3) =$

Graph the following piecewise functions.

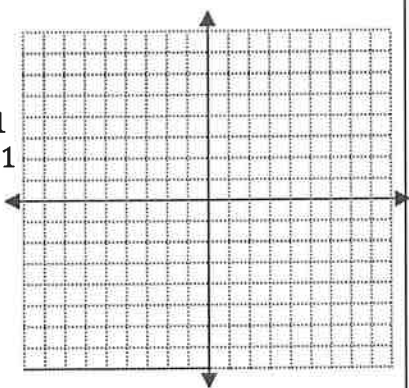
3.
$$f(x) = \begin{cases} 2x + 3, & x \leq 0 \\ \frac{1}{2}x - 1, & x > 0 \end{cases}$$



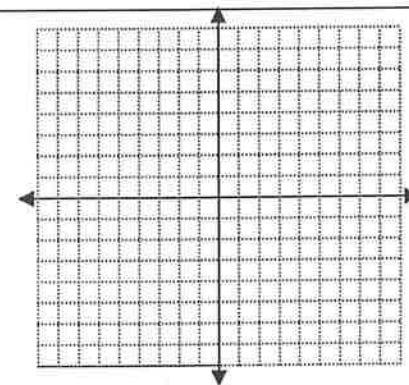
4.
$$f(x) = \begin{cases} -\frac{1}{3}x - 1, & x \leq 3 \\ 2, & x > 3 \end{cases}$$



5.
$$f(x) = \begin{cases} 6 + x, & x < -1 \\ -2x + 6, & x \geq -1 \end{cases}$$



6.
$$f(x) = \begin{cases} 3, & x \leq 0 \\ 1, & 0 < x \leq 2 \\ -1, & 2 < x \leq 4 \\ -3, & x > 4 \end{cases}$$



7.

$$f(x) = \begin{cases} 4x^2 - x^4, & x \leq -3 \\ x^2 + x, & -3 < x < 3 \\ 13, & x \geq 3 \end{cases}$$

a. $f(-3) =$

b. $f(3) =$

c. $f(0) =$

d. $f(-2) =$