

Homework

Evaluate the function for the given value of x.

$$f(x) = \begin{cases} 3, & \text{if } x \leq 0 \\ 2, & \text{if } x > 0 \end{cases}$$

$$g(x) = \begin{cases} x + 5, & \text{if } x \leq 3 \\ 2x - 1, & \text{if } x > 3 \end{cases}$$

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

1)  $f(-4)$

$$f(x) = 3$$

$$f(-4) = 3$$

2)  $f(0)$

$$f(x) = 3$$

$$f(0) = 3$$

3)  $f\left(\frac{1}{2}\right)$

$$f(x) = 2$$

$$f\left(\frac{1}{2}\right) = 2$$

4)  $g(7)$

$$g(x) = 2x - 1$$

$$g(7) = 2(7) - 1$$

$$g(7) = 14 - 1$$

$$g(7) = 13$$

$$h(-4)$$

$$h(x) = \frac{1}{2}x - 4$$

$$h(-4) = \frac{1}{2}(-4) - 4$$

$$h(-4) = -2 - 4$$

$$h(-4) = -6$$

5)  $g(-1)$

$$g(x) = x + 5$$

$$g(-1) = -1 + 5$$

$$g(-1) = 4$$

8)  $h(-2)$

$$h(x) = \frac{1}{2}x - 4$$

$$h(-2) = \frac{1}{2}(-2) - 4$$

$$h(-2) = -1 - 4$$

$$h(-2) = -5$$

6)  $g(3)$

$$g(x) = x + 5$$

$$g(3) = 3 + 5$$

$$g(3) = 8$$

9)  $h(6)$

$$h(x) = 3 - 2x$$

$$h(6) = 3 - 2(6)$$

$$h(6) = 3 - 12$$

$$h(6) = -9$$

10) Match the piecewise function with its graph.

10)  $f(x) = \begin{cases} x - 4, & \text{if } x \leq 1 \\ 3x, & \text{if } x > 1 \end{cases}$  E

11)  $f(x) = \begin{cases} x + 4, & \text{if } x \leq 0 \\ 2x + 4, & \text{if } x > 0 \end{cases}$  B

12)  $f(x) = \begin{cases} 3x - 2, & \text{if } x \leq 1 \\ x + 2, & \text{if } x > 1 \end{cases}$  D

13)  $f(x) = \begin{cases} 2x + 3, & \text{if } x \geq 0 \\ x + 4, & \text{if } x < 0 \end{cases}$  F

14)  $f(x) = \begin{cases} 3x - 1, & \text{if } x \geq -1 \\ -5, & \text{if } x < -1 \end{cases}$  C

15)  $f(x) = \begin{cases} -3x - 1, & \text{if } x \leq 1 \\ -5, & \text{if } x > 1 \end{cases}$  A

