

Piecewise Functions
Worksheet #1

Name Key

Evaluate:

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

$f(0) = \underline{3}$

$f(1) = \underline{2}$

$f(2.5) = \underline{5}$

2. $f(x) = \begin{cases} 1, & x < 0 \\ x, & x \geq 0 \end{cases}$

$f(-1) = \underline{1}$

$f(0) = \underline{0}$

$f(5) = \underline{5}$

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

$f(-1) = \underline{-1}$

$f(0) = \underline{0}$

$f(\pi) = \underline{-3\pi}$

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

$f(.5) = \underline{3.75}$

$f(1) = \underline{3}$

$f(3) = \underline{6}$

$f(4) = \underline{7}$

5. $f(x) = \begin{cases} 1, & x < 5 \\ 0, & x \geq 5 \end{cases}$

$f(0) = \underline{1}$

$f(6) = \underline{0}$

$f(5) = \underline{0}$

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

$f(-1) = \underline{1}$

$f(1) = \underline{0}$

$f(0) = \underline{1}$

$f(2.5) = \underline{4}$

1. Suppose $f(x) = 4x - 10$, $g(x) = 2x^2 - 7$, $h(x) = 3 - 5x$. Evaluate each of the following:

a) $f(2) = -2$

b) $g(2) = 1$

c) $h(2) = -7$

d) $f(-2) = -18$

e) $g(-2) = 1$

f) $h(-2) = 13$

g) $f(0) = -10$

h) $g(6) = 65$

2. Given the graph, find the following:

a) $f(0) = -5$

b) $f(1) = -5$

c) $f(-5) = 2$

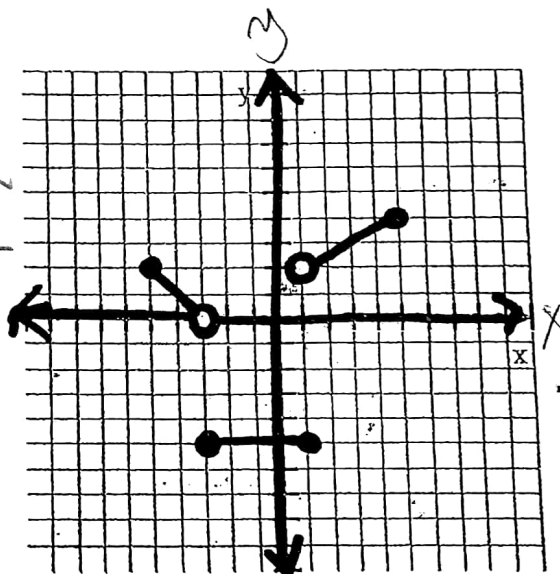
d) $f(3) = 3$

e) $f(-3) = -5$

f) $f(5) = 4$

g) $f(-2) = -5$

h) $f(6) = \text{DNE}$



3. Given the graph, find the following:

a) $f(0) = 2$

b) $f(1) = 0$

c) $f(-5) = -4$

d) $f(3) = \text{DNE}$

e) $f(-3) = \text{DNE}$

f) $f(5) = 8$

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

h) $f(6) = 8$

