



**MAJOR
(PIECEWISE)**

**FAMILIES OF FUNCTIONS
BOOT CAMP LEVEL 8 PRACTICE**

NAME: _____

Evaluate the function.

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

Find $f(x)$ if $x = 4$.

2.) $f(x) = \begin{cases} 3x-5 & x < 1 \\ 4x & x \geq 1 \end{cases}$

Find $f(0)$.

3.) $g(x) = \begin{cases} -5x-6 & x < 0 \\ x^2 & x > 0 \end{cases}$

Find $g(x)$ if $x = -1$.

4.) $g(x) = \begin{cases} 2x^2 & x < -1 \\ x-2 & x \geq -1 \end{cases}$

Find $g(8)$.

5.) $h(x) = \begin{cases} x & x < -2 \\ 1 & -2 \leq x \leq 4 \\ 2x & x > 4 \end{cases}$

Find $h(x)$ if $x = 3$.

6.) $h(x) = \begin{cases} 4x+1 & x \leq -1 \\ 2x & -1 < x < 5 \\ x-3 & x \geq 5 \end{cases}$

Find $h(-2)$.

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

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

Find $f(2)$.

9.) $(x) = \begin{cases} 7x^2 - 1 & x < 1 \\ 3x^2 + 4x & x \geq 1 \end{cases}$

Find $f(1)$

10.) What is $f(x)$ if $x = 0$ for $f(x) = \begin{cases} 2x^2 + x & x \leq -4 \\ 28 & -4 < x < 0 \\ x^2 + 28 & x \geq 0 \end{cases}$?