

Name: _____

PCH: Wrap up of Piecewise Functions

Date: _____

Ms. Loughran

Evaluate:

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

$f(0) = \underline{\hspace{2cm}}$

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

$f(2.5) = \underline{\hspace{2cm}}$

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

$f(-1) = \underline{\hspace{2cm}}$

$f(0) = \underline{\hspace{2cm}}$

$f(5) = \underline{\hspace{2cm}}$

3.
$$f(x) = \begin{cases} \frac{1}{x}, & x < 0 \\ -3x, & x \geq 0 \end{cases}$$

$f(-1) = \underline{\hspace{2cm}}$

$f(0) = \underline{\hspace{2cm}}$

$f(\pi) = \underline{\hspace{2cm}}$

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

$f(5) = \underline{\hspace{2cm}}$

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

$f(3) = \underline{\hspace{2cm}}$

$f(4) = \underline{\hspace{2cm}}$

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

$f(0) = \underline{\hspace{2cm}}$

$f(6) = \underline{\hspace{2cm}}$

$f(5) = \underline{\hspace{2cm}}$

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

$f(-1) = \underline{\hspace{2cm}}$

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

$f(0) = \underline{\hspace{2cm}}$

$f(2.5) = \underline{\hspace{2cm}}$

Sketch each function below without using a graphing calculator. Find the domain and range of each function. Remember, all functions must pass the vertical line test.

7.
$$f(x) = \begin{cases} x-3, & x \leq 1 \\ 2x, & x > 1 \end{cases}$$

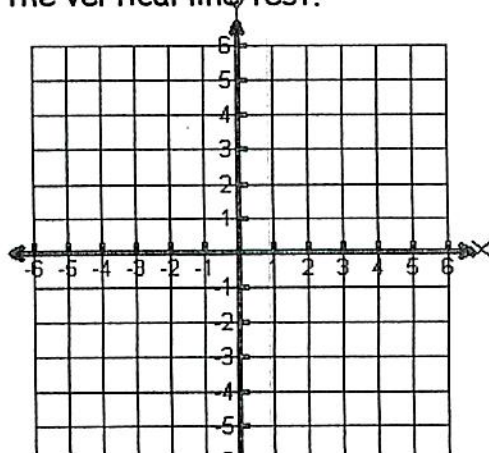
$D_f = \underline{\hspace{2cm}}$

$R_f = \underline{\hspace{2cm}}$

$f(0) = \underline{\hspace{2cm}}$

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

$f(2) = \underline{\hspace{2cm}}$



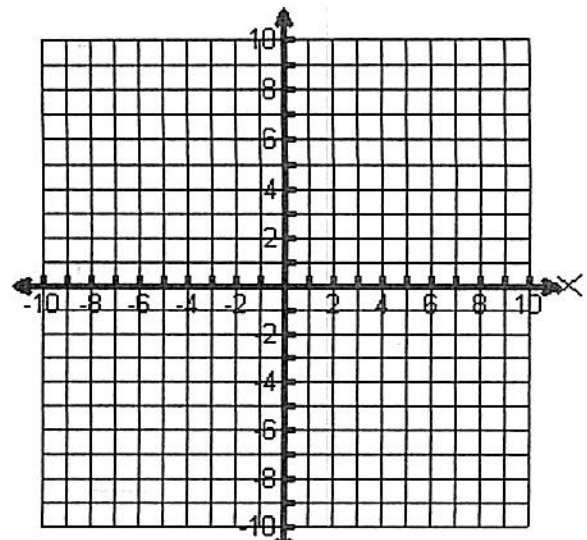
$$8. \quad f(x) = \begin{cases} 2, & x \geq 5 \\ -2x, & -2 \leq x < 3 \\ 2 - x^2, & x < -2 \end{cases}$$

$$D_f = \underline{\hspace{2cm}}$$

$$R_f = \underline{\hspace{2cm}}$$

Evaluate: $f(-2) = \underline{\hspace{2cm}}$

$$f(5) = \underline{\hspace{2cm}}$$



$$9. \quad f(x) = \begin{cases} \sqrt{x+3}, & x \geq 1 \\ -x, & x < 0 \end{cases}$$

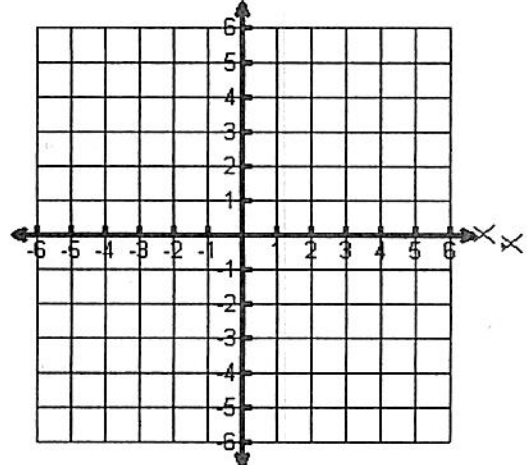
$$D_f = \underline{\hspace{2cm}}$$

$$R_f = \underline{\hspace{2cm}}$$

Evaluate: $f(1) = \underline{\hspace{2cm}}$

$$f(6) = \underline{\hspace{2cm}}$$

$$f(0) = \underline{\hspace{2cm}}$$



$$10. \quad f(x) = \begin{cases} 2x+3, & x < -1 \\ |x|-5, & -1 \leq x < 2 \\ 1, & x \geq 3 \end{cases}$$

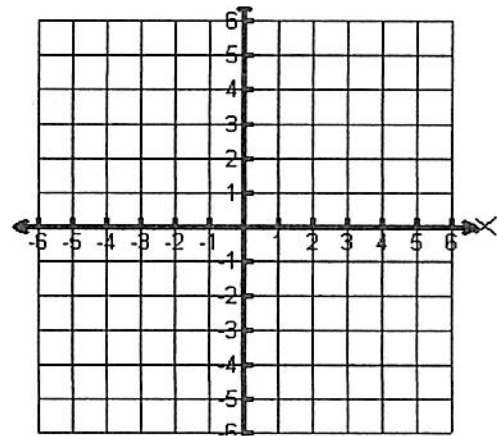
$$D_f = \underline{\hspace{2cm}}$$

$$R_f = \underline{\hspace{2cm}}$$

Evaluate: $f(1) = \underline{\hspace{2cm}}$

$$f(6) = \underline{\hspace{2cm}}$$

$$f(0) = \underline{\hspace{2cm}}$$



$$11. \quad f(x) = \begin{cases} -x, & -4 \leq x < -2 \\ x-3, & -2 \leq x < 1 \\ x^2-2, & x \geq 1 \end{cases}$$

$$D_f = \underline{\hspace{2cm}}$$

$$R_f = \underline{\hspace{2cm}}$$

Evaluate: $f(-4) = \underline{\hspace{2cm}}$

$$f(-2) = \underline{\hspace{2cm}}$$

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

