Evaluating Functions

Name _____

Score _____

EF:16

Evaluate each function.

1) $f(x) = \begin{cases} -x^3 & ; x > 3 \\ x^2 - 1 & ; x < -5 \\ -x - 5 & ; -4 \le x \le 2 \end{cases}$

$f(-4) =$ _____ $f(-6) =$ _____

$f(5) =$ _____ $f(1) =$ _____

$f(-7) \times f(0) =$ _____

2) $f(x) = \begin{cases} -x + 7 & ; -1 \le x \le 2 \\ x^2 - x - 3 & ; x \le -2 \\ 11x & ; x \ge 4 \end{cases}$

$f(5) =$ _____ $f(2) =$ _____

$f(-3) =$ _____ $f(-4) =$ _____

$3f(0) - 3f(-1) =$ _____

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

$f(8) =$ _____ $f(-1) =$ _____

$f(-9) =$ _____ $f(10) =$ _____

$f(15) - f(-5) =$ _____

4) $f(x) = \begin{cases} 2(4 - x) & ; -7 < x \le -1 \\ 6x & ; x < -8 \\ 3 - x^2 & ; x \ge 0 \end{cases}$

$f(-13) =$ _____ $f(4) =$ _____

$f(-6) =$ _____ $f(3) =$ _____

$2f(-1) + 4f(0) =$ _____

5) $f(x) = \begin{cases} 2x - 1 & ; x > 5 \\ \frac{x - 5}{4} & ; x < -2 \\ x^2 + x + 6 & ; -1 \le x \le 3 \end{cases}$

$f(9) =$ _____ $f(2) =$ _____

$f(0) =$ _____ $f(-11) =$ _____

$2f(-9) + f(-1) =$ _____

6) $f(x) = \begin{cases} x^3 + x^2 + 1 & ; x \ge 0 \\ 1 - \frac{x}{2} & ; -6 < x < -1 \\ x - 10 & ; x < -8 \end{cases}$

$f(1) =$ _____ $f(-4) =$ _____

$f(-14) =$ _____ $f(0) =$ _____

$f(2) \div f(-16) =$ _____

Evaluating Functions

Name _____

Score _____

Answer key

EF:16

Evaluate each function.

1) $f(x) = \begin{cases} -x^3 & ; x > 3 \\ x^2 - 1 & ; x < -5 \\ -x - 5 & ; -4 \le x \le 2 \end{cases}$

$f(-4) =$ **−1** $f(-6) =$ **35**

$f(5) =$ **−125** $f(1) =$ **−6**

$f(-7) \times f(0) =$ **−240**

2) $f(x) = \begin{cases} -x + 7 & ; -1 \le x \le 2 \\ x^2 - x - 3 & ; x \le -2 \\ 11x & ; x \ge 4 \end{cases}$

$f(5) =$ **55** $f(2) =$ **5**

$f(-3) =$ **9** $f(-4) =$ **17**

$3f(0) - 3f(-1) =$ **−17**

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

$f(8) =$ **4** $f(-1) =$ **1**

$f(-9) =$ **72** $f(10) =$ **6**

$f(15) - f(-5) =$ **−9**

4) $f(x) = \begin{cases} 2(4 - x) & ; -7 < x \le -1 \\ 6x & ; x < -8 \\ 3 - x^2 & ; x \ge 0 \end{cases}$

$f(-13) =$ **−78** $f(4) =$ **−13**

$f(-6) =$ **20** $f(3) =$ **−6**

$2f(-1) + 4f(0) =$ **32**

5) $f(x) = \begin{cases} 2x - 1 & ; x > 5 \\ \frac{x-5}{4} & ; x < -2 \\ x^2 + x + 6 & ; -1 \le x \le 3 \end{cases}$

$f(9) =$ **17** $f(2) =$ **12**

$f(0) =$ **6** $f(-11) =$ **−4**

$2f(-9) + f(-1) =$ **−1**

6) $f(x) = \begin{cases} x^3 + x^2 + 1 & ; x \ge 0 \\ 1 - \frac{x}{2} & ; -6 < x < -1 \\ x - 10 & ; x < -8 \end{cases}$

$f(1) =$ **3** $f(-4) =$ **3**

$f(-14) =$ **−24** $f(0) =$ **1**

$f(2) \div f(-16) =$ **$-\frac{1}{2}$**