Evaluating Functions

Name _____

Score _____

EF:17

Evaluate each function.

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

$f(10) =$ _____ $f(-2) =$ _____

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

$f(7) - 3f(0) =$ _____

2) $f(x) = \begin{cases} 3(5 - x) & ; x < -7 \\ \frac{x + 1}{3} & ; x > 7 \\ x^2 + 2 & ; 0 < x < 6 \end{cases}$

$f(8) =$ _____ $f(5) =$ _____

$f(-9) =$ _____ $f(-11) =$ _____

$2f(4) + f(-8) =$ _____

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

$f(2) =$ _____ $f(-7) =$ _____

$f(9) =$ _____ $f(13) =$ _____

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

4) $f(x) = \begin{cases} x(x - 5) & ; x > 4 \\ 3x + 4 & ; x \le 0 \\ 5(x + 1) & ; 1 < x \le 3 \end{cases}$

$f(-4) =$ _____ $f(-12) =$ _____

$f(3) =$ _____ $f(15) =$ _____

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

5) $f(x) = \begin{cases} x + 11 & ; -4 < x < 6 \\ \frac{x}{5} & ; x \ge 7 \\ -2x & ; x < -6 \end{cases}$

$f(15) =$ _____ $f(-9) =$ _____

$f(20) =$ _____ $f(-3) =$ _____

$f(0) + 4f(-10) =$ _____

6) $f(x) = \begin{cases} x^2 - x - 5 & ; x < 0 \\ -x - 3 & ; x > 10 \\ x^2(2 + x) & ; 1 < x < 4 \end{cases}$

$f(-1) =$ _____ $f(-6) =$ _____

$f(14) =$ _____ $f(2) =$ _____

$3f(3) - f(16) =$ _____

Evaluating Functions

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Answer key

Evaluate each function.

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

$f(10) =$ **–60** $f(-2) =$ **–12**

$f(-5) =$ **–9** $f(4) =$ **–24**

$f(7) - 3f(0) =$ **–33**

2) $f(x) = \begin{cases} 3(5 - x) & ; x < -7 \\ \frac{x + 1}{3} & ; x > 7 \\ x^2 + 2 & ; 0 < x < 6 \end{cases}$

$f(8) =$ **3** $f(5) =$ **27**

$f(-9) =$ **42** $f(-11) =$ **48**

$2f(4) + f(-8) =$ **75**

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

$f(2) =$ **8** $f(-7) =$ **–11**

$f(9) =$ **–45** $f(13) =$ **–65**

$f(-1) \times f(-8) =$ **32**

4) $f(x) = \begin{cases} x(x - 5) & ; x > 4 \\ 3x + 4 & ; x \le 0 \\ 5(x + 1) & ; 1 < x \le 3 \end{cases}$

$f(-4) =$ **–8** $f(-12) =$ **–32**

$f(3) =$ **20** $f(15) =$ **150**

$2f(-2) \div f(2) =$ **$-\frac{4}{15}$**

5) $f(x) = \begin{cases} x + 11 & ; -4 < x < 6 \\ \frac{x}{5} & ; x \ge 7 \\ -2x & ; x < -6 \end{cases}$

$f(15) =$ **3** $f(-9) =$ **18**

$f(20) =$ **4** $f(-3) =$ **8**

$f(0) + 4f(-10) =$ **91**

6) $f(x) = \begin{cases} x^2 - x - 5 & ; x < 0 \\ -x - 3 & ; x > 10 \\ x^2(2 + x) & ; 1 < x < 4 \end{cases}$

$f(-1) =$ **–3** $f(-6) =$ **37**

$f(14) =$ **–17** $f(2) =$ **16**

$3f(3) - f(16) =$ **154**