Lesson 1.3 Practice: Piecewise and Absolute Value Functions

School Launch · Algebra II · Unit 1: Functions and Their Graphs · Worksheet A

Calculator for decimals

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. $f(x) = 2x + 1$ if $x < 0$, and $f(x) = 3x - 5$ if $x \geq 0$. Find $f(-1)$, $f(0)$. EASY

2. $f(x) = x + 2$ if $x < -2$, and $f(x) = 3x + 2$ if $x \geq -2$. Find $f(-4)$, $f(-2)$. EASY

3. $f(x) = 4x - 4$ if $x < 2$, and $f(x) = x - 6$ if $x \geq 2$. Find $f(-2)$, $f(2)$. EASY

4. $f(x) = -2x - 2$ if $x < 3$, and $f(x) = -4x + 5$ if $x \geq 3$. Find $f(1)$, $f(3)$, $f(6)$. MEDIUM

5. $f(x) = 4x + 6$ if $x < 3$, and $f(x) = -2x + 2$ if $x \geq 3$. Find $f(1)$, $f(3)$, $f(4)$. MEDIUM

6. $f(x) = -3x - 1$ if $x < 0$, and $f(x) = 3x + 2$ if $x \geq 0$. Find $f(-4)$, $f(0)$, $f(2)$. MEDIUM

7. $f(x) = 3x - 6$ if $x < 3$, and $f(x) = 4x - 2$ if $x \geq 3$. Find $f(1)$, $f(3)$, $f(6)$. MEDIUM

8. $f(x) = x + 3$ if $x < 3$, and $f(x) = -4x^2 - 6$ if $x \geq 3$. Find $f(1)$, $f(3)$, $f(4)$. HARD

9. $f(x) = -4x - 5$ if $x < 1$, and $f(x) = 3x^2 + 2$ if $x \geq 1$. Find $f(-3)$, $f(1)$, $f(3)$. HARD

10. $f(x) = 3x + 4$ if $x < -2$, and $f(x) = -1x^2 - 6$ if $x \geq -2$. Find $f(-4)$, $f(-2)$, $f(0)$. HARD