Practice 12

Piecewise Functions

Evaluate the piecewise function at the given value of the independent variable.

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

A) 15 B) 13 C) -20 D) 18

2) $f(x) = \begin{cases} x - 4 & \text{if } x > 5 \\ -(x - 4) & \text{if } x \leq 5 \end{cases}$; $f(1)$ 2) _____

A) -3 B) 1 C) 3 D) -17

3) $g(x) = \begin{cases} \dfrac{x^2 - 2}{x - 1} & \text{if } x \neq 1 \\ x - 4 & \text{if } x = 1 \end{cases}$; $g(-5)$ 3) _____

A) -9 B) $-\dfrac{23}{6}$ C) -5 D) $\dfrac{7}{6}$

4) $h(x) = \begin{cases} \dfrac{x^2 + 7}{x + 2} & \text{if } x \neq -2 \\ x - 2 & \text{if } x = -2 \end{cases}$; $h(-2)$ 4) _____

A) 0 B) 4 C) undefined D) -4

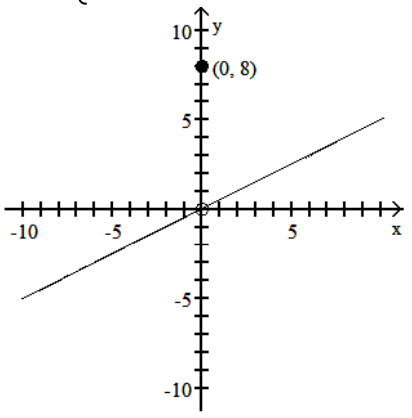
Graph the function.

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

6) $f(x) = \begin{cases} x + 3 & \text{if } -7 \leq x < 3 \\ -9 & \text{if } x = 3 \\ -x + 4 & \text{if } x > 3 \end{cases}$ 6) _____

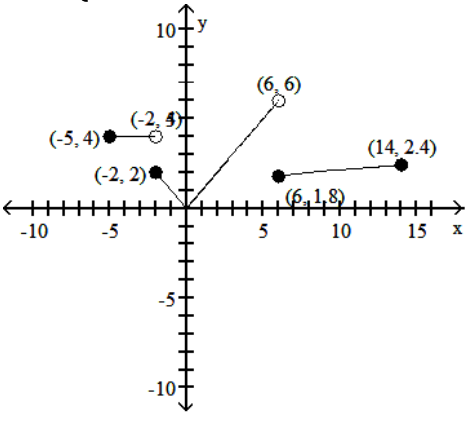
Based on the graph, find the range of y = f(x).

7) $f(x) = \begin{cases} \frac{1}{2}x & \text{if } x \neq 0 \\ 8 & \text{if } x = 0 \end{cases}$ 7) _____



A) $(-\infty, \infty)$
B) $(-\infty, 0)$ or $\{0\}$ or $(0, \infty)$
C) $(-10, 10)$
D) $(-\infty, 0)$ or $(0, \infty)$

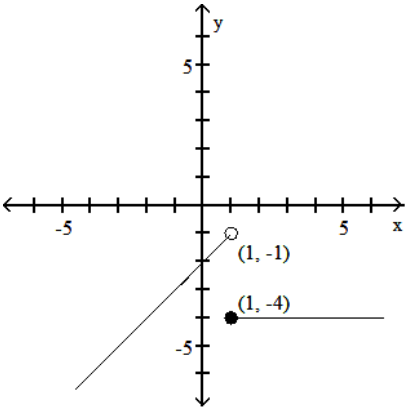
8) $f(x) = \begin{cases} 4 & \text{if } -5 \leq x < -2 \\ |x| & \text{if } -2 \leq x < 6 \\ \sqrt[3]{x} & \text{if } 6 \leq x \leq 14 \end{cases}$ 8) _____



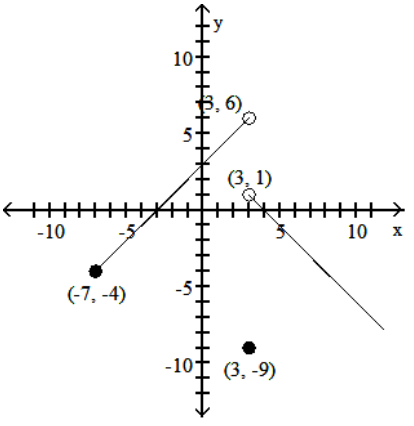
A) $[0, \infty)$
B) $[0, 6]$
C) $[0, 6)$
D) $[0, \sqrt[3]{14}]$

Answer Key
Testname: 12_PIECEWISE FUNCTIONS

1) A
2) C
3) B
4) D
5)



6)



7) D
8) C