PreCal HW 1.5 Worksheet

Visit CK12.org for Free Online Practice

Select All That Apply Questions

For each question, three to six alternative choices are given, of which one or more than one is correct. You have to select the correct alternatives and mark it in the appropriate option.

1. If $f(x) = x+5$ and $g(x) = x^2+2x-15$ which of the following are included in the domain of $\left(\frac{f}{g}\right)(x)$?

   a. (-∞,5)
   b. (-∞,∞)
   c. (3,∞)
   d. (5,∞)
   e. (-∞,-5)
   f. (-5,3)

2. If $f(x) = x+3$ and $g(x) = x^2-x-12$, which intervals are included in the domain of $\left(\frac{f}{g}\right)(x)$?

   a. $(3,\infty)$
   b. $(-\infty,\infty)$
   c. $(-\infty,-4)$
   d. $(-3,4)$
   e. $(4,\infty)$
   f. $(-\infty,-3)$

Multiple Choice Questions

For each question, four alternative choices are given, of which only one is correct. You have to select the correct alternative and mark it in the appropriate option.

3. What is the domain of the function given by $\sqrt{x}$?

   a. (-∞, 0]
   b. (0, ∞)
   c. [0, ∞)
   d. (-∞, ∞)

4. Simplify the following:
   If $f(x) = 6x^2-3x+5$ and $g(x) = 4x^2+5x-8$, find $(g-f)(x)$.

   a. $-2x^2-4x-13$
   b. $2x^2-8x-13$
   c. $-2x^2+8x-13$
   d. $-x^2+8x+13$

5. Find the domain for the following function.
   $y = \frac{7}{x+6}-1$

   a. Domain : $x \in (\infty,4) \cup (-2,-\infty)$
   b. Domain : $x \in (-\infty,-7) \cup (-8,-\infty)$

c. Domain : $x \in (-\infty, -6) \cup (-6, \infty)$
d. Domain : $x \in (-\infty, -5) \cup (-8, -\infty)$

6. If $h(x) = 5x + 1$ and $g(x) = 3\sqrt{x-5}$, find $h - g$ and the restrictions on the domain.

a. $x + 5 - 3\sqrt{x-1}, x \geq 5$
b. $3x + 1 - 5\sqrt{x-5}, x \geq 5$
c. $3x + 5 - 1\sqrt{x-1}, x \geq 5$
d. $5x + 1 - 3\sqrt{x-5}, x \geq 5$

7. If $f(x) = 2x^2 + 4x$ and $g(x) = -3x + 4$ then find $(f + g)(x)$

a. $2x^2 + x - 4$
b. $2x^2 + x + 4$
c. $2x^2 + 7x - 4$
d. $2x^2 - 7x + 4$

8. Find the domain for the following function.
$y = -3\sqrt{x+4} - 1$

a. Domain : $x \in [-1, -\infty)$
b. Domain : $x \in [-4, \infty)$
c. Domain : $x \in [-2, \infty)$
d. Domain : $x \in [-3, -\infty)$

9. If $f(x) = x^2 - 5$ and $g(x) = x + 7$ then find $(f - g)(x)$

a. $x^2 - x - 12$
b. $x^2 - x + 2$
c. $x^2 + x - 12$
d. $x^2 - x - 7$

10. If $f(x) = x + 4$ and $g(x) = 3x - 6$, find $(f \cdot g)(1)$.

a. 15
b. 19
c. 11
d. -15