Pre-Calculus

Homework - 1.7

Find the domain of the function.

1) $g(x) = \dfrac{x}{x^2 - 1}$

1) _____

2) $f(x) = \sqrt{20 - x}$

2) _____

3) $f(x) = \dfrac{x}{\sqrt{x - 6}}$

3) _____

4) $f(x) = \dfrac{2}{\dfrac{9}{x - 4} + 3}$

4) _____

Given functions f and g, perform the indicated operations.

5) $f(x) = 7x^2 - 5x, \quad g(x) = x^2 - 3x - 10$

5) _____

Find $\dfrac{f}{g}$.

6) $f(x) = 3x - 1,$ $g(x) = \dfrac{3}{x + 2}$

   Find $f + g$.

6) _____

7) $f(x) = \dfrac{2x}{x - 2},$ $g(x) = \dfrac{5}{x + 9}$

   Find fg.

7) _____

8) $f(x) = 8 - \dfrac{3}{x},$ $g(x) = \dfrac{3}{x}$

   Find $f - g$.

8) _____

For the given functions f and g, find the indicated composition.

9) $f(x) = 4x - 5,$ $g(x) = 2x^2 - 7x,$ $(g \circ f)(x)$

9) _____

10) $f(x) = \dfrac{4}{x + 4},$ $g(x) = \dfrac{2}{7x},$ $(f \circ g)(x)$

10) _____

11) $f(x) = 4x^2 + 2x + 5,$ $g(x) = 2x - 4,$
    $(g \circ f)(-3)$

11) _____