

Chapter 2 Section 3
The Algebra of Functions
Problems

Find the domain of each function:

1) $f(x) = 4x + 7$

2) $g(x) = x + \frac{3}{5-x}$

3) $f(x) = \frac{1}{x+8} + \frac{3}{x-10}$

Find $(f + g)(x)$ and $(f + g)(5)$

4) $f(x) = 4x + 2, g(x) = 2x - 9$

5) $f(x) = 4x^2 - x - 3, g(x) = x + 1$

Find $(fg)(x)$ and $\left(\frac{f}{g}\right)(x)$

6) $f(x) = 5x, g(x) = -2x - 3$

For each pair of functions, f and g , determine the domain of $f + g$

7) $f(x) = 7x + 4, g(x) = \frac{2}{x-6}$

8) $f(x) = x^2 + 1, g(x) = x^3 - 1$