Combinations of Functions;
Composite Functions

1. Find the domain of each function:

$$f(x) = x^2 - 4x - 7$$

2. Find the domain of each function:

$$f(x) = \frac{2}{x^2 - 6x - 27}$$

3. Find the domain of each function:

$$g(x) = \frac{1}{x^2 + 9} + \frac{5}{x^2 - 9}$$

4. Find the domain of each function:

$$g(x) = \frac{1}{\frac{2}{x+1} - 3}$$

5. Find the domain of each function:

$$g(x) = \sqrt{5x - 25}$$

6. Find the domain of each function:

$$h(x) = \sqrt{x-5} + \sqrt{x+2}$$

7. Find f + g, f – g, fg, and f/g

$$f(x) = 3x^2 - 11x + 6, g(x) = x - 3$$

8. Find f + g, f – g, fg, and f/g

$$f(x) = 5 - \frac{2}{x}, g(x) = \frac{2}{x}$$

9. Find a) f ◦ g, b) g ◦ f, and c) (f ◦ g)(2)

$$f(x) = 9x - 2, g(x) = 5x - 1$$

10. Find a) f ◦ g, b) g ◦ f, and c) (f ◦ g)(2)

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