1. Find the domain of the following function.

$$f(x) = \frac{9x^3 + x^2 + 4x + 5}{x^2 - 16}$$

2. Find the domain of the following function.

$$g(x) = \frac{1}{x^3 - 13x^2 + 42x}$$

3. Find the domain of the following function.

$$g(x) = \frac{1}{x^3 + 3x^2 - 28x}$$

4. Find the domain of the following function.

$$f(x) = \sqrt{4x + 7}$$

5. Find the domain of the following function.

$$f(x) = \sqrt{|5x + 9| - 2}$$