Math 111 Worksheet 7

1. Find the inverse function $f^{-1}(x)$ and check your answer.

$$f(x) = \frac{2x - 1}{5}$$

2. Find the inverse function $f^{-1}(x)$ and check your answer.

$$f(x) = \frac{x + 7}{3x - 4}$$

3. Find the standard form of the equation of the parabola. Identify the vertex and the x-intercepts.

$$f(x) = 2x^2 - 16x + 45$$

4. Find the standard form of the equation of the parabola. Identify the vertex and the x-intercepts.

$$f(x) = -3x^2 + 12x - 1$$

5. Divide. Give your answer in the form given by the division algorithm.

$$(2x^4 + 5x^3 - 2x - 8) \div (x + 3)$$

6. Show that $(x + 1)$ and $(x + 2)$ are both factors of

$$f(x) = x^4 + 5x^3 + 5x^2 - 5x - 6.$$

Then find the remaining factors and write a complete factorization of $f(x)$.