Name:

Quiz 2: §B.2-B.3

Complete the following problems to the best of your ability. **SHOW ALL OF YOUR WORK.** Unshown work will not be graded. You may use a calculator.

1. [50] Factor the following expressions completely.

   (a) $2x^2 + 6x - 12x^3$

   (b) $6x^2 - 2x^3 + 4x$

   (c) $x^2 - 5x - 14$

   (d) $6x^3 + 3x^2 - 4x - 2$

   (e) $x^5y^2 - xy^6$

2. [50] Calculate and simplify.

(a) $\dfrac{x-4}{x^2+5x-6} \cdot \dfrac{x^2+7x+6}{x^2-2x-8}$

(b) $\dfrac{x^2+3x-4}{x^2-16} \div \dfrac{x+4}{x-4}$

(c) $\dfrac{1}{x+2} - \dfrac{x}{x-3}$