College Algebra

Preliminary Assessment #1

Directions: Provide complete responses to each question. Make sure to show your work.

1. Simplify the following expressions:

   a. $(x^2 - 4x - 21) + (2x^2 + 12x + 20)$

   b. $(x^2 - 4x - 21) - (2x^2 + 12x + 20)$

   c. $(4x^2 - 14x - 210) - (12x^2 + 362x + 202)$

2. Multiply the following expressions:

   a. $x(x + 8x)$

   b. $x^2(x^3 - x^2 - 8x)$

   c. $(2x - 3)(3x - 4)$

   d. $(x^2 - 2x - 1)(x^2 + 5x + 6)$

3. Find thee quotient and remainder:

    a. $3x^3 - x^2 + x - 2 \ divided \ by \ x + 2$

    b. $3x^3 - x^2 + x - 2 \ divided \ by \ x^2$

c. $5x^4 - x^2 + x - 2 \; divided \; by \; x^2 + 2$

d. $3x^5 - x^2 + x - 2 \; divided \; by \; 3x^3 - 1$