Name_____ Date _____

Alternative Assessment

1. Consider the product of two binomials. For the following, show your multiplication to verify the product is a polynomial of the type specified.

   a. Find two binomials whose product is also a binomial.

   b. Find two binomials whose product is a trinomial.

   c. Find two binomials whose product is a polynomial with four terms.

2. Consider the binomial $x^6 - y^6$.

   a. Factor this completely as the difference of two squares.

   b. Factor this completely as the difference of two cubes.

   c. Use parts (a) and (b) to show that
   $\left(x^2 + xy + y^2\right)\left(x^2 - xy + y^2\right) = x^4 + x^2y^2 + y^4$. Verify this with polynomial multiplication.

3. Find three consecutive positive integers whose product is 336 using the following methods.

   a. Write three different ways to represent the product of the integers. (*Hint:* Let *x* equal the first number in one case, the second number in another, and the third in another.)

   b. For each representation, write an equation in standard form showing that the product is 336.

   c. Solve each equation graphically. Verify that each representation yields the same set of three integers.

   d. Besides solving a polynomial equation, what other methods could you use to find the integers?