Quiz 9

Practice quiz on factoring.

1. Factor each of the following polynomials completely. If you think that a polynomial is irreducible state so and explain why.

   (a) $x^2 - 2x - 15$

   (b) $x^2 - 7x + 12$

   (c) $4x^2 - 20x + 25$

   (d) $2x^3 - 3x^2 - 9x$

   (e) $4x^2 - 9$

   (f) $x^3 + 3x^2 - 4x - 12$

   (g) $9x^2 + 16$

   (h) $12x^3 + 15x - 8yx^2 - 10y$

2. Find an integer b so that the following polynomial is reducible: $x^2 + bx + 6$.

3. Find an integer b so that the following polynomial is irreducible: $x^2 + bx + 6$.

4. Factor completely:

$$x^3 + 5x^2 - 2x - 24$$

Given that $(x - 2)$ is a factor.

5. Factor completely: $x^4 + 7x^2 + 12$