Alg 2
Ch 6
Sec 6.1 & 6.2(part) Review

Name:

Hour:

1. Factor each of the following expressions completely.
   a) $2x^3 - 4x^2 - 48x$ b) $3x^3 + x^2 - 2x$ c) $8x^3 - 10x^2 + 2x$ d) $12x^3 - 3x$

2. Expand the following expressions; write in standard form.
   a) $(x - 2)(x + 3)(x + 2)$ b) $(x - 4)(x + 1)(x - 2)$

3. a) Write the polynomial in standard form $(2x^3 + 2x^2 + 5) - (4x^2 + x^3 + 2)$
   b) Classify the polynomial by its degree
   c) Classify the polynomial based on its number of terms
   d) What is the lead coefficient?
   e) What is the degree of the polynomial?
   f) What do the answers to parts d & e indicate about the polynomial?

4. Give an example of the polynomial (in standard form) described.
   a) Cubic binomial with EB
   b) Quintic polynomial with EB
   c) Quadratic trinomial with EB

5. Factor each of the following expressions completely.
   a) $x^3 + 4x^2 - 12x$ b) $10x^2 - 15x$

6. Based on the end behavior, match each function with its graph. **Explain your reasoning.**

$$f(x) = x^3 - 3x^2 - 6x + 8 \qquad\qquad g(x) = -x^3 + 9x^2 - 27x + 17$$

$$h(x) = x^4 + 7x^3 - 5x^2 - 75x \qquad k(x) = -x^6 + 36x^3 - 22x^2 - 147x - 90$$

A.

B.

C.

D.