Alg 2 6.1-6.2 Quiz Review Name_____Hr__

Graphing Calculator Section

1. The dimensions of a box are given as width of x – 1, length of x and height of x + 3.
   a) Write an equation to model the volume. *(V=lwh)*
   b) Find x when the volume is 36 m^3. Use x to find the length, width and height.
2. Find the zeros, and relative minimum and maximum values of $y=-2x^3-14x^2+2x+84$

Non-Graphing Calculator Section

3. a) Write the polynomial in standard form $(2x^3+2x^2+5)-(4x^2+x^3+2)$
   b) Classify the polynomial based on degree.
   c) What is the lead coefficient?
   d) What do the degree and lead coefficient tell you about this polynomial?

4. Given the polynomial, find the zeros, state any multiplicities, and sketch graph.
   a) $y=x(x+4)^3(x-3)$ b) $y=(x-2)(x+3)^2(x+1)^3$

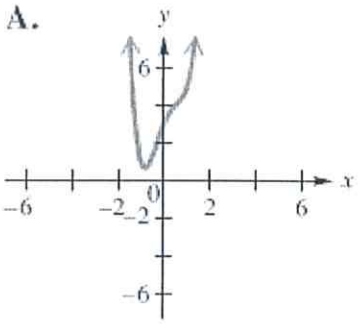
5. Factor, find the zeros and then sketch graph.
   a) $y=x^3+4x^2-12x$ b) $y=10x^2-15x$

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

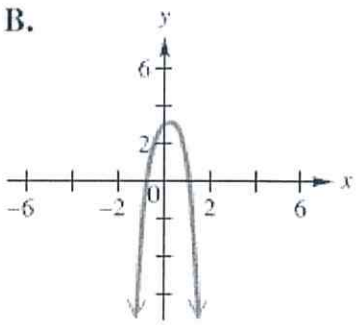
$f(x)=x^3-3x^2-6x+8$ $g(x)=-x^3+9x^2-27x+17$

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

A.



B.



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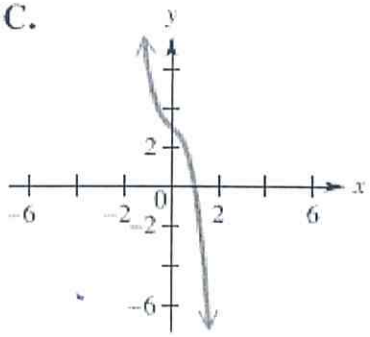
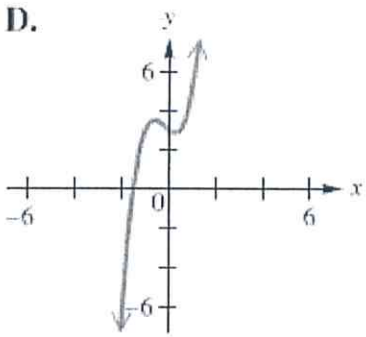


D.



7. Write the given polynomial in standard form: $y=(x-4)(x+1)(x-2)$