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Name: Sect #:   ST.ID #:

1) Use the given polynomial $3x^2 - 5x + 6 - 6x^4 - 7x^6$ to find:
   a) The standard form

   b) Coefficients

   c) Leading coefficient

   d) Degree

   e) Terms

2) Evaluate $3x^3 - 5x + 6 - 6x^2$ at $x = -2$

3) Name the following expressions as mono, bio, trio, poly (specify its degree) or no polynomial:

   a) $3x^{-2} - 5x$ b) $\sqrt{x} - 5x + 6$

   c) $2x^4 - 5xy^4 + 6x^3y^2$ d) $3x - \dfrac{2}{3}$

4) Perform the indicated operations, simplify & write the answer in standard form:

   a) $(2x^3 - 5x^4 + 6x) + (2x^4 - 3x^2 - 5) - (3 - 7x + 2x^2)$

   b) $(2x - 4)(x^2 - 5x + 6)$

   c) $(2x - 4)^2 - (3x - 5)^2$

   d) $(2x - 3y)^3$ **BONUS**

5) Factor completely:

   a) $8x^2 - 32$

b) $10x^2 - 11x + 1$

c) $3x^3 - 81$

d) $2x^2 + 32$

e) $4x^3 - 8x^2 - x + 2$

f) $4x^2 - 12x + 9 - y^2$

g) $7x^2 - 34x - 5$

h) $2x^2 - 7x - 2$

i) $4x^2 + 2x - y - y^2$ **BONUS**

j) $x^6 + y^{12}$ **BONUS**