Math 2A   Name_____
2.2 Adding Polynomials   Period____

Simplify each expression by combining like terms, put your answers in standard form. (Add)

1) $\left(3r^3 - 3r\right) + \left(r^3 + 5r\right)$

2) $\left(x - 3\right) + \left(4 - 2x\right)$

3) $\left(3n^3 + 4n^2\right) + \left(3n^2 - 4n^3\right)$

4) $\left(x + 2\right) + \left(2x - 3\right)$

5) $\left(4n^3 - 3n^2\right) + \left(4n^2 + 2n^3\right)$

6) $\left(2x^2 + 2x^3\right) + \left(4x^2 + 2x^3\right)$

7) $\left(1 + 4x\right) + \left(5x^2 + 3\right)$

8) $\left(2b^3 - 4b^2\right) + \left(5b + 4b^3\right)$

9) $\left(-11x^4 + 7x^5 - 4x^2\right) + \left(2x^2 + 3x^4 - 8x^5\right)$

10) $\left(14v^2 - 7v + 11\right) + \left(-10v - 10v^5 + 6\right)$

11) A pool is being filled with a large water hose. The height of the water in a pool is determined by $8g^2 + 3g - 4$. Previously, the pool had been filled with a different hose. Then, the height was determined by $6g^2 + 2g - 1$. Write an expression that determines the height of the water in the pool if both hoses are on at the same time. Simplify the expression.

12) The length of a rectangle is represented by 4a + 3b, and its width is represented by 3a - 2b. Write a polynomial for the perimeter of the rectangle.