**Foundations of Math & Pre-Calculus 10**

**Chapter 3 ~ Polynomials**

**Lesson P1 ~ Multiplying Polynomials**

Example #1: Use the distributive property to expand .

Example #2: Expand the polynomial using the distributive property.

Example #3: Expand and simplify .

Example #4: Expand and simplify .

Example #5: Expand and simplify .

**Lesson P2 ~ Common Factors of a Polynomial**

Understanding the Instructions

|  |  |
| --- | --- |
| In Arithmetic | In Algebra |
| **Multiply** factors to form a product:  (2)(7) = 28 | **Expand** an expression to form a product:  3(2 - 5a) = 6 - 15a |
| **Factor** a number by writing it as a product of factors:  28 = (2)(7) | **Factor** a polynomial by writing it as a product of factors:  6 - 15a = 3(2 - 5a) |

\*Factoring and expanding are inverse processes (opposite operations) just like multiplying and dividing are inverse processes.

Example #1: Factor the following binomials. Use the distributive property to check your answer.

1. 6n + 9
2. 8c + 4c2

Example #2: Factor the following trinomial. Use the distributive property to check your answer.

6 - 12k +18k2

Example #3: Factor the following polynomial. Use the distributive property to check your answer.

-12x3y - 20xy2 + 16x2y2

**Lesson P3 ~ Factoring Polynomials**

**Polynomials of the Form**

Example #1: Factor the following trinomials. Expand to check your answer.

**Polynomials of the Form : Difference of Squares**

Example #2: Factor the following binomials. Expand to check your answer.

**Factoring By Decomposition ~ Optional Grade 11 Math**

**Polynomials of the Form ax2 + bx + c**

Example #1: Factor the following trinomials by decomposition. Use the distributive property to check your answer.