Topic: 5.2 Common Factors	Name: _____
	Class: Foundations and Pre-Calculus Math 10
	Date: _____

Questions/Main Ideas:	Notes:
Learning Intention:	Identify and remove (factor) the greatest common factor (GCF) from a polynomial. Focus on: Determining prime factors, greatest common factors, and least common multiples of whole numbers. writing polynomials in factored form Applying your understanding of factors and multiples to solve problems.
Quick Review:	<u>Greatest Common Factor (GCF)</u> • the largest factor shared by two or more terms • for example, the GCF of 12 and 28 is 4 <u>Least Common Multiple (LCM)</u> • the smallest multiple shared by two or more terms • Multiples of 6 and 8 are 24, 48, 72,…. The LCM is 24. Examine the surface area formulas used in previous sections. The same formula can be used in different ways after factoring out the GCF. $SA = 2lw + 2lh + 2wh$ $SA = 2(lw + lh + wh)$ $SA = 2\pi r^2 + 2\pi rh$ $SA = 2\pi r(r + h)$

Important Concept	Factor out the GCF from a polynomial by dividing each term by the GCF. Then, the polynomial can be written in a simpler form to solve more complex problem.
	$$15x^2 + 10x = 5x(3x + 2)$$
	For Prime Factorization, write a number as the product of prime numbers. For example, the prime factorization of 18 is $18 = 2 \times 3 \times 3$.
	Eg 1. Determine the GCF of $16x^2y$ and $24x^2y^3$.
	Method 1: Use Prime Factorization
	Method 2: List the Factors
	Eg 2. Write each polynomial or expression in factored form.
	a) $7a^2b - 28ab + 14ab^2$
	b) $27r^2s^2 - 18r^3s^2 - 36rs^3$
	c) $3x(x - 4) + 5(x - 4)$
	d) $y^2 + 8xy + 2y + 16x$

Something challenging Problem Solving:	Eg4. Paula has 18 toonies, 30 loonies, and 48 quarters. She wants to group her money so that each group has the same number of each coin and there are no coins leftover. a) What is the maximum number of groups she can make? b) How many of each coin will be in each group? c) How much money will each group be worth?
Next Step:	p 220 # 1,2-7(a,c,e), 8 Bonus #11,12