Name: _____   **Unit 8 Test Corrections**

Click on the correct test, then watch the problem-solving videos and take notes. Then, complete the six re-test problems in the right column. Use the problems in the left column and the steps to solve to guide you. You may earn up to half points back on your original test grade.

If you are not eligible for test corrections, you may attend a Wednesday school to regain eligibility. Please have the Wednesday school teacher sign below.   Date: _____ Signature: _____

The Example Problem	Steps to Solve	Problem for You to Complete

2. Which binomial is a factor of $24x^2 - 49x + 2$?
 	
  A. $x - 2$
  B. $x - 1$
  C. $x + 1$
  D. $x + 2$
	1. Identify *a, b* and *c*. Standard form of a quadratic equation is $y = ax^2 + bx + c$
	2. Draw a t-chart to find the factors of *ac* that add up to *b*.
	3. Use the two numbers that multiply to *ac* but add to *b* to split the middle term. The first and last term stay the same.
	4. You should now have a total of four terms. You can either
	    a. Make two groups and factor out the GCF of each group.
	    b. Draw a two by two box and put your 4 terms inside the box and factor out the GCF of each row and column.
	5. If you went with option *a.* on step 4, you should end up with two sets of parenthesis that match. This will be one of your factors. The GCFs you took out of each group will go together in your second factor.
	    If you chose option **b.** on step 4, your two factors are outside the box. One factor is down the left side of the box and the second factor is across the top.
	6. Find the answer choice that is the same as one of your factors.
		Which binomial is a factor of $12x^2 - 37x + 3$?
		
		  A. $x + 3$
		  B. $x - 1$
		  C. $x + 1$
		  D. $x - 3$

The Example Problem	Steps to Solve	Problem for You to Complete
4. Factor the following expression, completely. $$7x^2y^3 - 14xy^2 + 70x^3y^5$$ A. $7(x^2y^3 - 2xy^2 + 10x^3y^5)$ B. $7xy(xy^2 - 2y + 10x^2y^4)$ C. $7xy^2(xy - 2 + 10x^2y^3)$ D. $7xy^2$	1. Draw a "T" under each term and list out all the factors of that term, including variables. 2. Circle the Greatest Common Factor of each term, as well as how many of each variable each term has in common. 3. What you circled is your GCF and will go on the outside of the parenthesis in your answer. 4. What you do not circle or cross out will go inside the parenthesis.	Factor the polynomial by finding the Greatest Common Factor $$18x^3y^4 + 81x^2y^3 - 9x^2y$$ A. $3xy(6x^2y^3 + 27xy^2 - 3x)$ B. $9x^2y(2xy^3 + 9y^2 - 1)$ C. $3x^2y(6xy^3 + 27y^2 - 3)$ D. $9xy(2x^2y^3 + 29xy^2 - x)$
7. Factor the following expression, completely. $$6x^3 - 15x^2 - 9x$$ A. $3x(2x-1)(x+3)$ B. $3x(x+1)(2x-3)$ C. $3x(2x+1)(x-3)$ D. $x(x^2-9)(x-6)$	1. Read the directions carefully and notice that you are matching the polynomial with its completely factored form. 2. Because your polynomial only uses one variable, check for its factored match using your calculator. 3. Put the given polynomial in **Y₁**. 4. Put answer choice A in **Y₂**. 5. Check for matching **Y₁** and **Y₂** values in your calculator table. If they match, A could be your answer. 6. Continue checking the other answer choices by clearing answer choice A from **Y₂** and entering answer choice B in **Y₂**. Check the table again. 7. You must check all of the answer choices because there may be multiple matches. The correct answer is the form that is factored <u>completely</u>.	Factor the following expression, completely. $$6a^4 + 20a^3 - 16a^2$$ A. $(2a^3 + 8a^2)(3a-2)$ B. $2a^2(a+4)(3a-2)$ C. $2a^2(a-4)(3a+2)$ D. $(2a^3 - 8a^2)(3a+2)$

The Example Problem	Steps to Solve	Problem for You to Complete
8. Stephanie used the following steps to correctly factor the trinomial $x^2 - 2x - 3$ Step 1 $x^2 - 2x - 3$ Step 2 $x^2 + 1x - 3x - 3$ Step 3 $x(x+1) - 3(x+1)$ Step 4 $(x-3)(x+1)$ What process did she perform to get from Step 1 to Step 2? A. She added 1x to the expression. B. She found the factors of -3 that added to -2 to split the middle term. C. She multiplied the terms together. D. She found the greatest common factor of all the terms.	1. Ignore the multiple choice and steps portion. Work out the problem as normal. 2. Find the values for a, b, and c. 3. Multiply a times c 4. Write out multiples of ac and find the two numbers that add to the b value 5. Rewrite the trinomial with two numbers we found in step 3 (split the middle term) 6. Factor the first two terms. Factor the last two terms. 7. Write the common factor once, and combine the other GCF terms.	Michael's steps for factoring the trinomial $x^2 - 4x - 12$ are listed below. Step 1: $x^2 - 4x - 12$ Step 2: $x^2 + 2x - 6x - 12$ Step 3: $x(x+2) - 6(x+2)$ Step 4: $(x+2)(x-6)$ What process did Michael perform in Step 3? A. He multiplied the terms together. B. He found the factors of -12 that added to -4 to split the middle term. C. He found the greatest common factor of all the terms. D. He added 2x to the expression.
13. The area of a rectangular lot can be represented by $(12a^2 - 17a - 5)$ yd^2. If the width of the lot is $(3a - 5)$ yd, what is its length? A. $4a + 1$ B. $12a + 1$ C. $a - 1$ D. $4a - 1$	1. Draw a picture and label your sides based off the information that is given to you. 2. Identify what you are trying to find. 3. Draw out a multiplication box and put the area inside the box. 4. Label the width outside of the multiplication box on the tops. 5. Multiply to find the missing side.	The area of a rectangular garden can be represented by $(3x^2 + 2x - 8)$ yd^2. If the width of the garden is $(3x - 4)$ yd, what is its length? a. 3x - 2 b. x + 2 c. x - 2 d. 3x + 2