

Only to be used for arranged hours

Math 31

Activity # 7

"Greatest Common Factor and Least Common Denominator"

Your Name: _____

Finding Least Common Denominator (LCD):

Case 1) Denominators with no common factors.

Example: Suppose denominators are:

a) 3, 8

What is LCD? _____

Explain how you found the LCD?

What is GCF? _____

Explain how you found the GCF?

b) $2x$, $3t$

What is LCD? _____

What is GCF? _____

Develop the rules for finding LCD and GCF for expressions with no common factors.

a) In your own words provide a rule for finding least common denominator (LCD) when there are no common factors.

b) Set a rule for finding Greatest Common Factor (GCF) if the expressions have no common factors.

Case 2) One of the denominators is a multiple of the other(s).

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Example: Suppose denominators are:

a) 2, 8

What is LCD? _____

Explain how you found the LCD?

What is GCF? _____

Explain how you found the GCF?

b) $(x-1)$, $(x-1)^2$

What is LCD? _____

What is GCF? _____

Develop the rules for finding LCD and GCF for expressions if one of them is a multiple of the other(s).

a) In your own words provide a rule for finding least common denominator (LCD) when one denominator is a multiple of the other(s).

b) Set a rule for finding Greatest Common Factor (GCF) if one of the expressions is a multiple of the other(s).

Case 3) Denominators have some (but not all) factors in common.

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Example: Suppose denominators are:

a) 12, 8

What is prime factorization of 12? What is prime factorization of 8?

What is LCD of 12, 8? _____ Explain how you found the LCD?

What is GCF of 12, 8? _____ Explain how you found the GCF?

b) $(x-1)y$, $(x-1)^2$

What is LCD? _____

What is GCF? _____

Develop the rules for finding LCD and GCF for expressions with some (but not all) factors in common.

a) In your own words provide a rule for finding least common denominator (LCD) when denominators have some (but not all) factors in common.

b) Set a rule for finding Greatest Common Factor (GCF) if expressions have some (but not all) factors in common.

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For each of the following find both the *Greatest Common Factor (GCF)* and the *Least Common Multiple (LCM)* [if it was in a fraction we would call it a *LCD*].

Do the work on your own paper and attach it to this page. Write the answers on this page.

	GCF	LCM
1. $10t^5, 15t^4, \text{ and } 25t^3$		
2. $x^5y^2, x^4y^5, x^3y^3, \text{ and } x^2y^3$		
3. $4(x - 1) \text{ and } 8(x - 1)$		
4. $x^2 + 3x + 2 \text{ and } x^2 - 4$		
5. $y^3 - y^2 \text{ and } y^4 - y^2$		
6. $8x^3z, 12xy^2, \text{ and } 4y^5z^2$		
7. $x^2 - 9, x + 3, \text{ and } (x - 3)^2$		
8. $2x^2 + 5x + 2 \text{ and } 2x^2 - x - 1$		
9. $a - 5 \text{ and } (a^2 - 10a + 25)^2$		
10. $9x^3 - 9x^2 - 18x \text{ and } 6x^5 - 24x^4 + 24x^3$		