



## Factors---Multiples Aughh!

Match the following

	FACTOR	MULTIPLE
GIVEN: 24	12 3	48, 72
$x \cdot 6x = 6x^2$ GIVEN: $6x^2$ $(x^2)(6) = 6x^2$	$x^2$ 2 $x$	$12x^2$

May 26-10:57 AM

### Common Factors

List the factors of  $8x^2$  and  $10x$

$1, 8$ $2, 4$ $x$	$1, 10$ $2, 5$ $x$
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What factors do they have in common? How do we find the GCF?

$1, 2, x$   $2x$

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$8x^2 (x \cdot x) \quad 10x^2$   
 $x \cdot x \cdot x \quad x \cdot x \cdot$   
 $2x^2$

May 26-6:48 AM

## GCF Practice

1. 24 and 30

$$\begin{array}{r}
 6 \left\{ \begin{array}{l} 2 \\ 3 \end{array} \right. \left| \begin{array}{r} 24 \quad 30 \\ \hline 12 \quad 15 \\ \hline 4 \quad 5 \end{array} \right.
 \end{array}$$

2.  $20x^2$  and  $12x$

$$\begin{array}{r}
 4x \quad 4 \left| \begin{array}{r} 20x^2 \quad 12x \\ \hline 5x^2 \quad 3x \\ \hline 5x \quad 3 \end{array} \right.
 \end{array}$$

3.  $8x^2$ ,  $10x$ ,  $6xy$

$$\begin{array}{r}
 2x \quad 2 \left| \begin{array}{r} 8x^2 \quad 10x \quad 6xy \\ \hline 4x^2 \quad 5x \quad 3xy \\ \hline 4x \quad 5 \quad 3y \end{array} \right.
 \end{array}$$

May 26-11:04 AM

## Factoring Polynomials

Given the polynomial  $4x + 6$ , find the Greatest Common Factor (GCF) of the two terms.

$$\begin{array}{r}
 2 \left| 4x + 6 \\
 \hline
 2x + 3
 \end{array}$$

$$2(2x + 3)$$

Rewrite the expression with the common factor on the outside of the parenthesis, and the remaining factors on the inside.

$$\text{GCF}(\text{remaining factor} + \text{remaining factor})$$

May 26-6:48 AM

## Identifying Factors

Which expression is equivalent to  $4x^2 - 20$ ?

$$\begin{array}{r} 4 \overline{) 4x^2 - 20} \\ \underline{x^2 - 5} \\ 4(x^2 - 5) \end{array}$$

- A.  $4(x^2 - 20)$
- B.  $4(x - 5)$
- C.  $4x^2(1 - 5)$
- D.  $4(x^2 - 5)$

May 26-6:52 AM

## Identifying Factors

Which expression is equivalent to  $3x^2 - 6x + 15$ ?

$$\begin{array}{r} 3 \overline{) 3x^2 - 6x + 15} \\ \underline{x^2 - 2x + 5} \end{array}$$

- A.  $3(x^2 + 2x + 5)$
- B.  $3(x^2 - 6x + 15)$
- C.  $3(x^2 - 2x + 5)$
- D.  $3(x^2 - 6x + 15)$

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## Identifying Factors

Identify the missing common factor from the expression:

$$\underline{8x^2 - 12x + 24}$$

$$?(2x^2 - 3x + 6)$$

$$4(2x^2 - 3x + 6)$$

May 26-6:55 AM

## ERROR---OOOPS

A student responded this way. How'd he do?

Rewrite the expression as a product of GCF and a polynomial.

$$12x^2 + 8x - 20$$

ANSWER:

$$2(6x^2 + 4x - 10)$$

$$4(3x^2 + 2x - 5)$$

May 26-11:06 AM

Factor the polynomial

Factor the polynomial

$$6x + 10$$

$$5x^2 - 15$$

$$4x^2 + 8$$

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Factoring Polynomials

KEY CONCEPT

*If you remove the entire term as a common factor,  
use "1" as the place holder in the polynomial.*

$$6x + 3$$

$$12x^2 + 4$$

$$4(3x^2 + 1)$$

$$8x^2 + 4x + 2$$

May 26-6:51 AM



## Intro to Algebra

### Agenda:

- Polynomial Test on Friday?

### To Do Now:

- Have your notebook on your desk.
- Polynomials-Wrap up

### Warm Up:

Divide:

$$(3x^3 - 6x + 10) \div (x - 1)$$

$$3x^2 + 3x - 3 + \frac{7}{x-1}$$

$$\begin{array}{r} 3x^2 \\ x-1 \overline{) 3x^3 - 6x + 10} \\ \underline{-(3x^3 - 3x^2)} \phantom{+ 10} \\ 3x^2 - 6x + 10 \\ \underline{-(3x^2 - 3x)} \phantom{+ 10} \\ -3x + 10 \\ \underline{-(-3x + 3)} \\ 7 \end{array}$$

Nov 4-10:28 AM

$$\textcircled{1} \quad (x^2 + 6x + 9) \div (x + 3)$$

$$\textcircled{2} \quad (x^2 - 25) \div (x + 5)$$

$$\textcircled{3} \quad (A^3 + 3A^2B + 3AB^2 + B^3) \div (A + B)$$

May 26-8:37 AM

$$\frac{x^9}{x^7} = x^{9-7} = x^2$$

$$\frac{3^A}{3^{2c}} = 3^{A-2c}$$

$$\frac{4^{5x}}{4^x} = 4^{4x}$$

May 26-8:41 AM



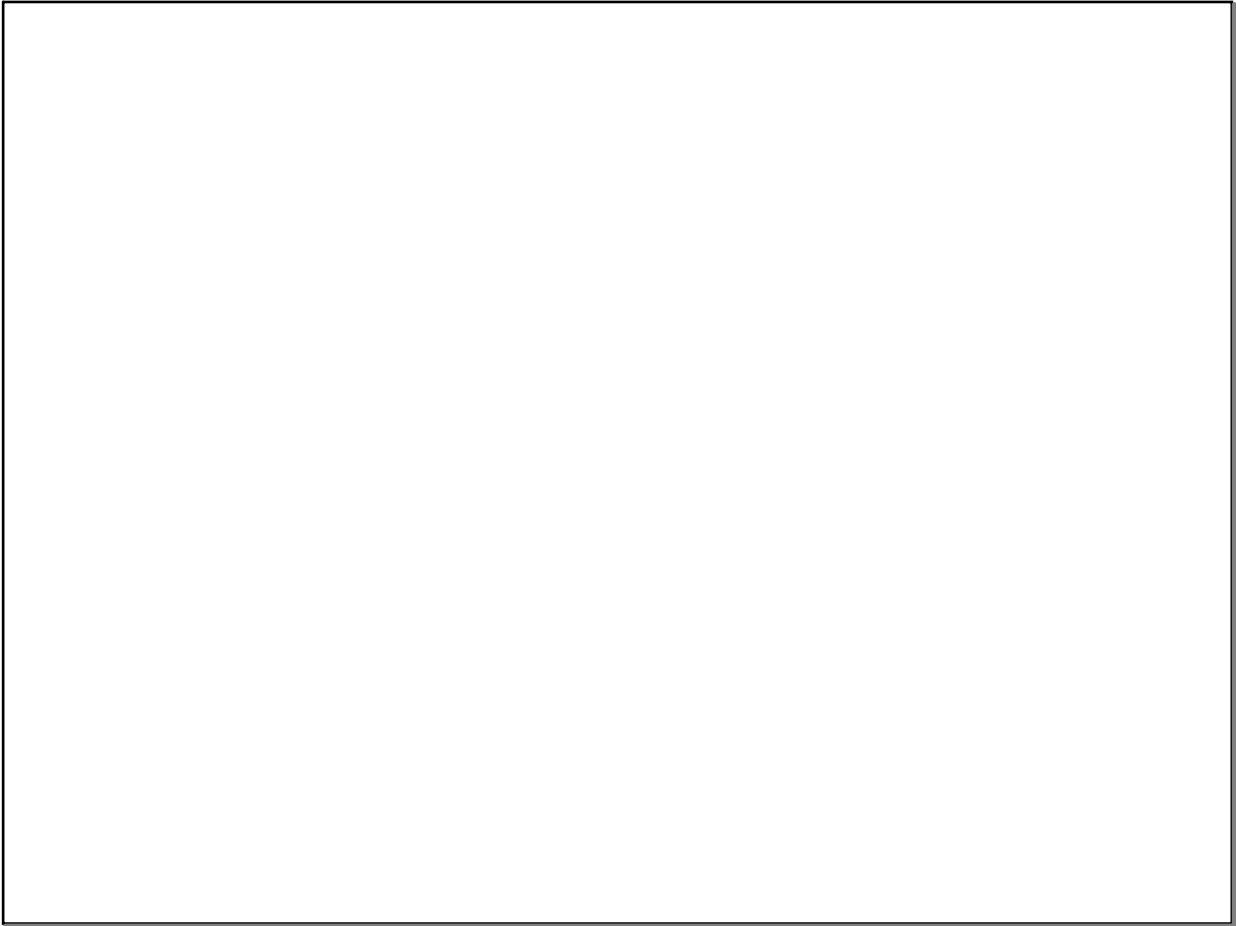
## Adv. Algebra

### Agenda:

- Problem-Solving
- Test on Word Problems.

### To Do Now:

- Two sheets of paper on your desk.



May 23-11:37 AM