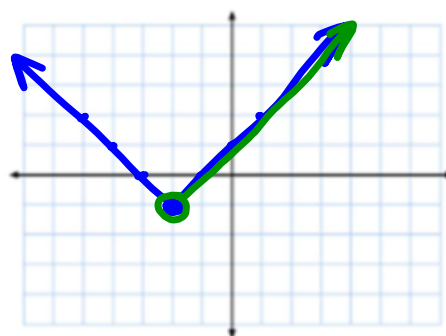


## Grab a Week #5 Packet

Monday 9/16Graph the absolute value function  $f(x) = |x+2| - 1$  as then write it as a piecewise function.

$$f(x) = \begin{cases} -x - 3 & x \leq -2 \\ x + 1 & x > -2 \end{cases}$$



Week #4 Packet due tomorrow...

$$\begin{array}{l} \overbrace{3(4+x)} = \\ 12 + 3x \end{array}$$

Review...  
Distribution

$$\begin{array}{l} \overbrace{-1(x+2)} = \\ -x - 2 \end{array}$$

-

Distribute:

$$\begin{array}{l} \text{Red arc over } x^2(10x + 5) \\ x^2(10x + 5) = \\ 10x^3 + 5x^2 \end{array}$$

$$\begin{array}{l} \text{Red arc over } 4x^3(x^2 + 7) \\ 4x^3(x^2 + 7) = \\ 4x^5 + 28x^3 \end{array}$$

## Review...

## Greatest Common Factor (GCF)

a. 10, 15 and 25 = 5

$\begin{array}{l} \textcircled{5} \cdot 2 \\ 1 \cdot 10 \end{array}$ 
 $\begin{array}{l} \textcircled{5} \cdot 3 \\ 1 \cdot 15 \end{array}$ 
 $\begin{array}{l} \textcircled{5} \cdot 5 \\ 1 \cdot 25 \end{array}$

c. 3, 8 and 14

1, 3

1

b. 20, 30 and 102

$\begin{array}{l} 20 \\ 5 \cdot 4 \\ 2 \cdot 10 \\ 1 \end{array}$ 
 $\begin{array}{l} 30 \\ 3 \cdot 10 \\ 5 \cdot 6 \\ 1 \end{array}$

2

Review...

Greatest Common Factor (GCF)

a.  $\underline{5} \cdot x$ ,  $3 \cdot \underline{5} \cdot x$  and  $4 \cdot \underline{5} \cdot x \cdot x$

$$5x$$

b.  $4a^2$  and  $6a^2 = 2a^2$

$$\begin{array}{l} 2 \cdot 2 \\ 1 \cdot 4 \end{array} \quad \begin{array}{l} 2 \cdot 3 \\ 1 \cdot 6 \end{array}$$

c.  $g^4$ ,  $24g^3$  and  $12g^2$

$$g^2$$

What is the GCF of the terms of the trinomial

$$\underline{3x^4} - \underline{9x^2} - \underline{12x}$$

$$3x$$

## Factoring out a Monomial...

- ✓ 1 - Find the GCF
- 2 - Divide GCF out of each term
- 3 - Write all new terms in ( ) with GCF out front

$$\frac{4x^5}{4x} - \frac{24x^3}{4x} \quad 4x^5 - 24x^3 + 8x$$

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

$$4x^5 - 24x^3 + 8x$$



## Factoring out a Monomial...

- 1 - Find the GCF
- 2 - Divide GCF out of each term
- 3 - Write all new terms in ( ) with GCF out front

$$25x^4 - 5x^2 + 15x + 10$$

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

Factor the polynomial

$$9x^6 + 15x^4 + 12x^2$$

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

Factor the polynomial

$$3x^5 + x^4 - 9x^2 - 12x$$

$$x(3x^4 + x^3 - 9x - 12)$$

Factor the polynomial

$$22y^2 + 33y + 11$$

$$11(2y^2 + 3y + 1)$$

Factor the polynomial

$$8m^4n^3 + 7m^3n^4 + m^2n^2$$

$$m^2n^2(8m^2n + 7mn^2 + 1)$$

Factor the polynomial

$$\underline{3x^2y^2 - 18x^3y^3 + 9xy^2}$$

$$3xy^2(x - 6x^2y + 3)$$

$$\frac{\cancel{3x^2y^2}}{\cancel{3xy^2} \cdot 2 = x}$$

$$-7x - 1$$

$$-1(7x + 1)$$

## In packet - due Wednesday

Math 2

Name \_\_\_\_\_ ID: 1

Factoring out the GCF

Date \_\_\_\_\_ Period \_\_\_\_\_

**Factor the greatest common factor out of each expression.**

1)  $15v - 10$

2)  $4m^3 + 5m^2$

3)  $20k^2 + 15k$

4)  $n^3 + n^2$

5)  $-4x^3 + 8$

6)  $12p^3 + 3p$

7)  $-4x^2 - 20x$

8)  $4k - 3k^2$

9)  $12 + 6p^4 + 14p$

10)  $15x^3 - 6x + 3$

11)  $12a^3 - 12a^2 + 21a$

12)  $-70y^5 - 63yx^3 - 56y^3$

13)  $-100u^3v^3 + 80uv^2 - 90u^2$

14)  $-80v^2u^4 - 20v^3 - 50v^2$

15)  $5x^7y^2 - 10x^2y^3 + 5xy$

16)  $40x^2y + 72xy$

17)  $80ab^4 - 10a^3b - 10a^3 + 20a^2$

18)  $12x^3y^4 + 18x^2$

19)  $-25x^4y^2 - 45xy$

20)  $16n^2 - 18n^3m^3$



