Greatest Common Factor

~~Agenda~~
Warm-Up
Set up Unit 7
Notes p. 79
HW - Practice #1 - 9

~~Reminders~~
Test Corrections TBA
Quiz & HW 4.5 due Friday
Math Blitz Tues/Thurs

~~Essential Question~~
How do I factor (undistribute) a polynomial expression using GCF?

~~Warm-Up (Monday)~~

Multiply the following polynomials.

1. $(x+4)(x-3)$

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

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

$\boxed{x^2+x-12}$

2. $(2x-5)^2$

$(2x-5)(2x-5)$

	$2x$	-5
$2x$		
-5		

On page 77&78, set up unit 7 in your notebook!

Put your "7" tab on page 77 (fold along the dotted line)

UNIT 7

TITLE: Factoring

77

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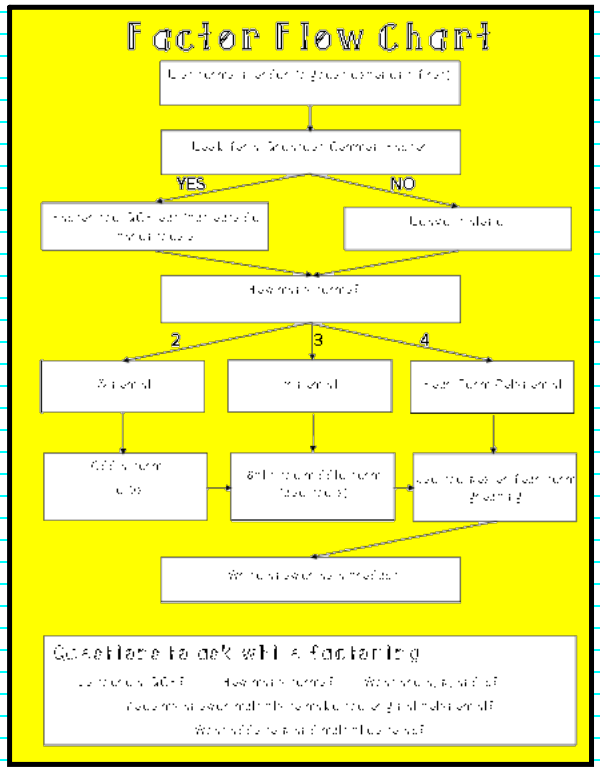
Factoring Flow Chart



Greatest Common Factor p.79

~~Essential Question:~~ How do I factor (undistribute) a polynomial expression using GCF?

Greatest Common Factor (GCF) - The product of the greatest integer and the greatest power of each variable that divides evenly into each term.

whole # exponent

y = #/x 2nd GRAPH

Find the GCF of the given monomials

1. 16, 24

1	16
2	8
4	4

1	24
2	12
3	8
4	6

$\boxed{8}$

2. $15y^3$, $-20y^2$

1	15
3	5

1	20
2	10
4	5

yyy yy

$\boxed{5y^2}$

3. $21p^2q$, $35pq^2$

1	21
3	7

1	35
5	7

pp p

q qq

$\boxed{7pq}$

Factor the polynomial expression.

4. $24a^2x^3 - 56ax^2 - 8x$

1	24
2	12
3	8
4	6

aa

xxx

1	56
2	28
4	14
7	8

a

xx

1	8
2	4

x

$\boxed{8x(3a^2x^2 - 7ax - 1)}$

5. $14xz - 18xz^2 + 4x^2z$

1	14
2	7

x

z

1	18
2	9
3	6

x

zz

1	4
2	2

xx

z

$\boxed{2xz(7 - 9z + 2x)}$

6. $2x^4 - 4x^3 - 12x^7$

1	2

1	4
2	2

1	12
2	6
3	4

xxxx xxx xxxxxxx

$\boxed{2x^3(x - 2 - 6x^4)}$

7. $22ax^2 - 44x + 11ax$

1	22
2	11

a

x

1	44
2	22
4	11

x

1	11

a

x

$\boxed{11x(2ax - 4 + a)}$

8. $-10e^5 - 6e^3 - 8e$

Algebra I - Unit 7: Topic 1 – Greatest Common Factor

Practice – Greatest Common Factor

Name _____ Date _____ Period_____

Find the GCF of the given monomials.

1. $6x^2y$, $42x^2$

2. $8x^4y^3$, $4x^3y^3$, $12x^2y^3$

3. $9r^4s^2d^6$, $56w^2n^4$

1 | 9
3 | 3

1 | 56
2 | 28
4 | 14
7 | 8

r r r r
s s
d d d d d d

w w
n n n n

1

Factor the polynomial expression. ( )

4. $12h^4 + 8h^2 - 6h$

5. $-15f - 10f^2$

6. $32a^3b^2c^3 + 40a^2bc^3 - 16abc$

7. $32jk^2 - 16j^2k + 2jk$

8. $12x^3y^2z^4 + 8x^3yz^2$

9. $9a^5 + 27a^3 - 45a^2$

A. $9(a^5 + 27a^3 - 45a^2)$

B. $9a^2$

C. $9a^2(a^3 + 3a - 5)$

D. $3a^2(3a^3 + 9a - 15)$

HW Help: Greatest Common Factor

No work = no credit = no kidding!

1. $6x^2$
2. $4x^2y^3$
3. 1 ... there are no numbers or letters in common.
4. $2h(6h^3 + 4h - 3)$
5. $-5f(-3 - 2f)$
6. $8abc(4a^2bc^2 + 5ac^2 - 2)$
7. $2jk(16k - 8j + 1)$
8. $4x^2yz^2(3yz^2 + 2)$

9 C.

Questions? Come to tutorials!