Factoring:

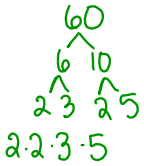
Greatest Common Factor

GCF

Factor pairs of 60:

$1 \cdot 60 \quad -1 \cdot -60$
$2 \cdot 30 \quad -2 \cdot -30$
$3 \cdot 20 \quad -3 \cdot -20$
$4 \cdot 15 \quad -4 \cdot -15$
$5 \cdot 12 \quad -5 \cdot -12$
$6 \cdot 10 \quad -6 \cdot -10$

Prime factorization of 60:



$2 \cdot 2 \cdot 3 \cdot 5$

Prime factorization of $140x^2y^3z$:

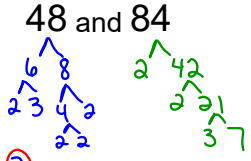
$2 \cdot 2 \cdot 5 \cdot 7 \cdot x \cdot x \cdot y \cdot y \cdot y \cdot z$

factors vs prime factorization

Greatest Common Factor of two numbers:

Method #1: look at the factors of each number

48 and 84



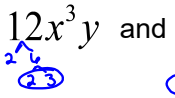
$48: 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3$
$84: 2 \cdot 2 \cdot 3 \cdot 7$
$2 \cdot 2 \cdot 3 = 12$

greatest common factor

Greatest Common Factor of two numbers:

Method #2: look at the prime factorization of each number

$12x^3y$ and $42x^2y^2$



$6x^2y$

greatest common factor

Factoring using the GCF:

hint: Distributive Property in reverse

$20x + 75$ $5(4x + 15)$

$32x - 16x^2$ $8x(4 - 2x)$ $16x(2 - x)$

$54x^2y + 63xy^3$ $9xy(6x + 7y^2)$

Assignment

Factor Wkst #1

factoring using GCF

Oct 11-8:14 AM