5.2: Common Factors

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Greatest Common Factor (GCF)

The largest factor Shared by two or more terms

Ex: 12 & 28

$GCF(12, 28) = 4$

12: 12, 6, 4, 3, 2, 1

28: 28, 14, 7, 4, 2, 1

Lowest Common Multiple (LCM)

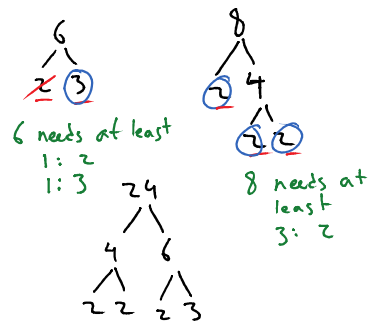
The Smallest multiple Shared by two or more terms.

Ex 6 & 8

$LCM(6, 8) = 24$

6: 6, 12, 18, 24, 30, 36, ...

8: 8, 16, 24, 32 . . . .



$3 \cdot 2 \cdot 2 \cdot 2 = 24$

GCF with Variables

$16x^2y$ and $24x^2y^3$

Do a Prime Factorization of each term

$2 \cdot 2 \cdot 2 \cdot 2 \cdot x \cdot x \cdot y$ | $2 \cdot 2 \cdot 2 \cdot 3 \cdot x \cdot x \cdot y \cdot y \cdot y$

$2 \cdot 2 \cdot 2 \cdot x \cdot x \cdot y$
$= 8x^2y$

$GCF(16x^2y, 24x^2y^3) = 8x^2y$

Your try

$7a^2b$ and $35a^3bc$

$GCF(7a^2b, 35a^3bc) = 7a^2b$

7 5

Hard

$7a^2b, -28ab, +14ab^2$

$GCF(7a^2b, -28ab, 14ab^2) = \underline{7ab}$

Factoring Polynomials : write in Factored Form

$7a^2b - 28ab + 14ab^2$ GCF = 7ab

$7a^2b = 7ab(a)$

$-28ab = 7ab(-4)$

$14ab^2 = 7ab(2b)$

$7a^2b - 28ab + 14ab^2$

$7ab(a) + 7ab(-4) + 7ab(2b)$

$7ab[a - 4 + 2b]$ ← Factored Form

In Factored Form

$4y^2 + 8xy + 2y$

GCF: $2y$

$2y[2y + 4x + 1]$

Tricky

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

GCF: $(x-4)$

write in Factored Form

Hint $3xt + 5t$

GCF: t

$t(3x + 5)$

$= (x-4)(3x+5)$

p220

HW: Q: 2, 3
Q: 4, 5, 7
Tricky

Ex: 4 pg. 218

18 twoonies

30 Loonies

GCF(18, 30, 48)

: 6

18: 1, 2, 3, 6, 9, 18

30: 1, 2, 3, 5, 6, 10, 15, 30

48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

18 twoonies
30 loonies
48 quaters

GCF(18, 30, 48)
: 6

30: 1, 2, 3, 5, 6, 10, 15, 30
48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 40

$\frac{18}{6}$ = 3 twoonies

$\frac{30}{6}$ = 5 loonies

$\frac{48}{6}$ = 8 quaters

Each group has
3 twoonies
5 loonies
8 quarters

total = 3 x 2 + 5 x 1 + 8 x 0.25
= 6 + 5 + 2
= $13

HW:	9, 11, 12, 13, 15	5.2	pg 221
	2, 4, 6, 8	5.1	pg 209

bathroom

Ren