

6.1 - Factoring

① Greatest Common Factor (GCF)

$35 = 5 \cdot 7$
 $63 = 3 \cdot 3 \cdot 7$

GCF = 7

Nov 3-10:00 AM

$6 = 2 \cdot 3$
 $24 = 2 \cdot 2 \cdot 2 \cdot 3$

GCF = $2 \cdot 3 = 6$

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x^2, x^5, x^7
 $x^2 = x \cdot x$
 $x^5 = x \cdot x \cdot x \cdot x \cdot x$
 $x^7 = x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x$

GCF = x^2

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$18x^3y^2 \neq 104xy^3$
 GCF = $2xy^2$

$18x^3y^2 - 104xy^3$
 $2xy^2(9x^2 - 52y)$

$\frac{18x^3y^2}{2xy^2} = 9x^2$
 $\frac{104xy^3}{2xy^2} = 52y$

** Relatively Prime i.e. "1" is the GCF*

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$12x - 4$
 $2(6x - 2)$ *GCF = 2*
 $2 \cdot 2(3x - 1)$ *not R.P. → GCF = 2*
 $4(3x - 1)$ *fully factored!*

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$3x^2y(-4xy + 5y - 2)$
 $-12x^3y^2 + 15x^2y^2 - 6x^2y$
 GCF = $3x^2y(-4xy + 5y - 2)$

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$$16c^3 + 32c^2 + 36c$$

① $GC F = 4c$

$$4c(4c^2 + 8c + 9)$$

R.P.

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Factoring by Grouping

① $x^2 - 6x - 3x + 18$

Group #1 $x^2 - 6x$ *Group #2* $-3x + 18$

$GC F = x$ 4 terms $GC F = -3$

② $x(x-6) - 3(x-6)$

$GC F = (x-6)$

③ $(x-6)(x-3)$ *fully factored*

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Do 6.1 #1 - 75 m3

Nov 3-10:44 AM