

October 19, 2015
* Exam #2 - October 30

Factoring - Polynomials

(Trinomials
↓
The reverse
of multiplication $ax^2 + bx + c$)

Oct 19-9:02 AM

Oct 19-9:09 AM

Greatest Common Factor (GCF) (Division)

$$4 \quad \cancel{4} \quad 6$$

$$\text{GCF}(4, 6) = 2$$

$$\frac{4}{2} = 2 \quad \frac{6}{2} = 3$$

Finding GCF: $36 \neq 48$

$36 = 2^2 \cdot 3^2$ $\begin{array}{c} 2 \\ \swarrow \quad \searrow \\ 2 \cdot 18 \\ \begin{array}{c} 2 \\ \swarrow \quad \searrow \\ 2 \cdot 9 \\ \begin{array}{c} 3 \\ \swarrow \quad \searrow \\ 3 \cdot 3 \end{array} \end{array} \end{array}$	$48 = 2^4 \cdot 3$ $\begin{array}{c} 2 \\ \swarrow \quad \searrow \\ 2 \cdot 24 \\ \begin{array}{c} 2 \\ \swarrow \quad \searrow \\ 2 \cdot 12 \\ \begin{array}{c} 2 \\ \swarrow \quad \searrow \\ 2 \cdot 6 \\ \begin{array}{c} 3 \\ \swarrow \quad \searrow \\ 3 \cdot 3 \end{array} \end{array} \end{array}$
---	--

$36 = \boxed{2} \boxed{2} \cdot 3 \cdot 3$ $48 = \boxed{2} \boxed{2} \cdot 2 \cdot 2 \cdot 3$

$\text{GCF}(36, 48) = 12$

$\frac{36}{48} = \frac{\cancel{2} \cdot \cancel{2} \cdot 3 \cdot 3}{\cancel{2} \cdot \cancel{2} \cdot 2 \cdot 2 \cdot 3} = \frac{3}{4}$

$\text{GCF}(3, 4) = \boxed{1}$
* Relatively Prime

Oct 19-9:11 AM

Oct 19-9:15 AM

$$36 \quad \neq \quad 90$$

$$\text{GCF}(36, 90) = 18$$

$$36 = \boxed{2} \boxed{2} \quad 90 = \boxed{2} \cdot 3 \cdot 3 \cdot 5$$

$\{ 2 \cdot 3 \cdot 3 = 6 \cdot 3 = 18$

$$\frac{36}{18} = \boxed{2} \quad \neq \quad \frac{90}{18} = 5$$

$$\text{GCF}(2, 5) = \boxed{1}$$

R.P.!

$$15, 25, 27$$

$\boxed{3} \cdot \boxed{5}, \quad \boxed{3} \cdot \boxed{5}, \quad \boxed{3} \cdot \boxed{3} \cdot \boxed{3}$

$$\text{GCF}(15, 25, 27) = 1$$

Oct 19-9:23 AM

Oct 19-9:31 AM

$$x^3, x^5, x^7$$

$$\text{GCF}(x^3, x^5, x^7) = x^3$$

$$\frac{x^3}{x^3} = 1 \quad \frac{x^5}{x^3} = x^2 \quad \frac{x^7}{x^3} = x^4$$

$$\text{GCF}(1, x^2, x^4) = 1 \quad \text{P.P.}$$

$$2x^6 + 4x^3$$

$$\text{GCF}(2x^6, 4x^3) = 2x^3$$

$$2x^3 \left(\underbrace{x^3 + 2}_{\text{P.P.}} \right)$$

$$\frac{2x^6}{2x^3} = x^3$$

$$\frac{4x^3}{2x^3} = 2x^3$$

$$2x^6 + 4x^3 \checkmark$$

Oct 19-9:36 AM

Oct 19-9:41 AM

$$6y^4 + 2y^3$$

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

Read 6.1 !

Oct 19-9:47 AM