How quick can you solve this using these number?

1, 2, 2, 4, 6, 7, 7, 8, 9

□	+	□	÷	□	= 2	
x		+		+		
□	−	□	+	□	= 5	
−		+		+		
□	+	□	−	□	=13	
=		=		=		
7		15		15		

Factoring

Greatest Common Factor (GCF)

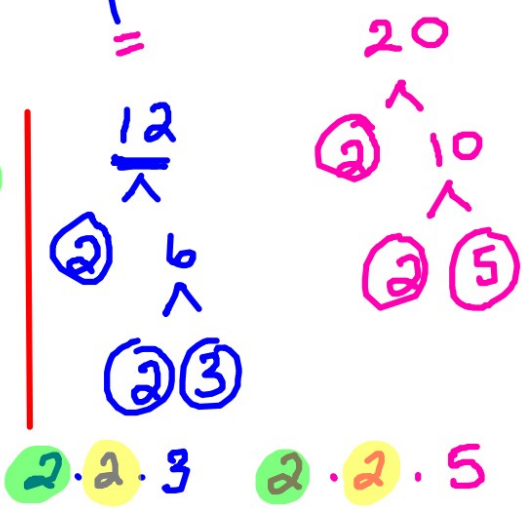
* The largest # that is a factor for all values

Ex: 12, 20 GCF is 4

12 = 1, 12, 2, 6, 3, 4

20 = 1, 20, 2, 10, 4, 5

GCF = 2·2 = 4



2·2·3 2·2·5

Ex: 16, 24, 32

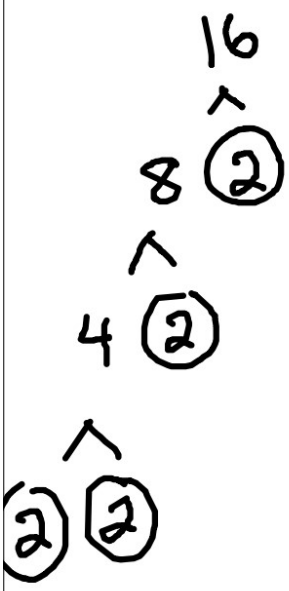
GCF is 8

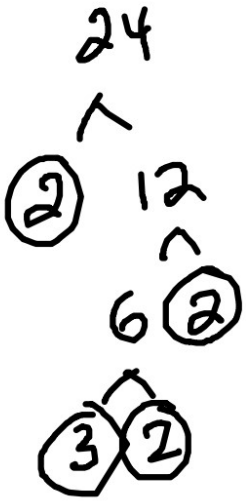
$16 = 2 \cdot 2 \cdot 2 \cdot 2$

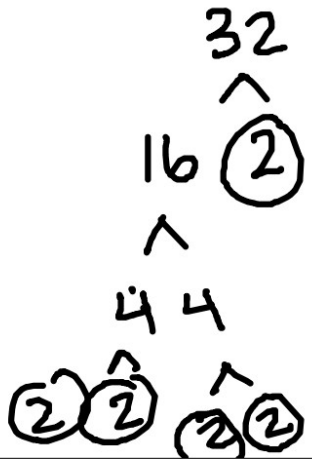
$24 = 2 \cdot 2 \cdot 2 \cdot 3$

$32 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$

$2 \cdot 2 \cdot 2 = 8$







* The GCF for variable expressions is any variable they all have in common, along with the smallest exponent for that variable.

Ex: $x^3 y^4 z^2$ & $x^4 y^8$

GCF is: $\boxed{x^3 y^4}$

Find GCF of: $a^5 b^3 c^1$ & $a^3 b^2 c^2 d^3$

GCF is: $\boxed{a^3 b^2 c}$

Find the GCF of: $12 a^3 b^5$ & $30 a^2 c^3$

GCF: $\boxed{6a^2}$

⊛ Factor out a GCF ⊛

→ 1) Find the GCF

→ 2) Divide each term by the GCF to see what is left.

Ex: Factor out the GCF

$$10x^3y^2 - 15x^2y^2 + 20x^1y^2$$

$$= \boxed{5xy^2\left(2x^2 - 3x + 4\right)}$$

Factor

$$28x^3y^4z^2 - 20x^2y^3z^3 + 12x^1y^2z^2$$

$$= \boxed{4xy^2z^2\left(7x^2y^2 - 5xyz + 3\right)}$$