

## Greatest Common Factor (GCF)

**Greatest common factor in mathematics**, is the **largest** positive integer, variable, or expression that divides each term of an expression.

Examples:

Find the GCF for each of the following.

1)  $10x^2 + 15x$

Solution:  $1) 10x^2 + 15x = 5x(2x + 3)$

The GCF is  $5x$

2)  $8x^2 + 16x - 8$

Solution:  $2) 8x^2 + 16x - 8 = 8(x^2 + 2x - 1)$

The GCF is  $8$

3)  $3(x-1)^2 + 15(x-1) - 21$

Solution:

$$3(x-1)^2 + 15(x-1) - 21(x-1) = 3(x-1)^2 - 6(x-1) = 3(x-1)[(x-1) - 2]$$

The GCF is  $3(x-1)$