Factoring Simple Trinomials – Part 1

Recall $(x+2)(x+5) \Rightarrow x^2+5x+2x+10$

$= x^2+7x+10$

$x \cdot x \quad 2+5 \quad 2 \cdot 5$

has a leading coefficient of 1

Ex. $x^2+10x+16$

Add to 10 — Product of 16

Think: 16

$1 \cdot 16 \rightarrow 1+16=17$

$2 \cdot 8 \rightarrow 2+8=10$

$4 \cdot 4 \rightarrow 4+4=8$

$(x+2)(x+8)$

leading coefficient

Ex. $4(4x^2-32x+48)$ remove the GCF

$\frac{4}{4} \quad \frac{-32}{4} \quad \frac{48}{4}$

$4(x^2-8x+12)$ → Think: 12

$1 \cdot 12$

$2 \cdot 6$

$3 \cdot 4$

Sum Product

Positive → (+x+) or (-x-)

$4(x-2)(x-6)$