

Pattern : $\underline{x^2}$ \underline{x} $\underline{\#}$

Factoring Simple Trinomials - Part 2

Ex. 1

$$x^2 + 3x - 18$$

subtract because zero pairs

↓ ↓
Sum Product

Think:

$$\begin{array}{r} 18 \\ 1 \cdot 18 \\ 2 \cdot 9 \\ 3 \cdot 6 \end{array} \quad \begin{array}{l} \oplus \\ \ominus \end{array}$$

$$(x - 3)(x + 6)$$

$$\begin{array}{c} -3x \\ +6x \\ \hline = 3x \checkmark \end{array}$$

+3-6
or -3+6

Ex 2: $4x^2 \left(\frac{4x^4}{4x^2} - \frac{16x^3}{4x^2} - \frac{20x^2}{4x^2} \right)$

remove GCF

$$4x^2(x^2 - 4x - 5)$$

↓ Sum Product

see simple trinomial
 $\underline{x^2}$ \underline{x} $\underline{\#}$

$$4x^2(x - 5)(x - 1)$$

Ex 3:

$$x^2 + 13xy + 30y^2 \rightarrow x^2 + 13x + 30$$

Sum Product

double pattern

$$(x + 10y)(x + 3y)$$

$$\rightarrow (x + 10)(x + 3)$$

$$\begin{array}{c} 10xy \\ 3xy \\ \hline = 13xy \checkmark \end{array}$$