

How do you know which factoring method to use?

CHOOSING THE RIGHT FACTORING METHOD

$$\begin{aligned} & -3x^2 + 48 \\ & 2x^2 - 9x - 18 \\ & -4x^2 - 8 + 3x^3 + 6x \end{aligned}$$



1. Put in order

$$\begin{aligned} & -3x^2 + 48 \\ & 2x^2 - 9x - 18 \\ & *3x^3 - 4x^2 + 6x - 8* \end{aligned}$$



2. Take out any GCF, including negative LC

$$\begin{aligned} & *-3(x^2 - 16)* \\ & 2x^2 - 9x - 18 \\ & 3x^3 - 4x^2 + 6x - 8 \end{aligned}$$



3. How many terms are in the remaining expression?

2 Terms

DOTS?

$$\begin{aligned} & -3(x^2 - 16) \\ & a^2 = x^2 \quad b^2 = 16 \\ & a = x \quad b = 4 \\ & (a + b)(a - b) \\ & \underline{-3(x + 4)(x - 4)} \end{aligned}$$

3 Terms

MA Chart?

$$\begin{aligned} & 2x^2 - 9x - 18 \\ & M = -36, A = -9 \\ & -12 \text{ and } 3 \\ & 2x^2 - 12x + 3x - 18 \\ & 2x(x - 6) + 3(x - 6) \\ & \underline{(2x + 3)(x - 6)} \end{aligned}$$

4 Terms

Grouping?

$$\begin{aligned} & 3x^3 - 4x^2 + 6x - 8 \\ & (3x^3 - 4x^2) + (6x - 8) \\ & x^2(3x - 4) + 2(3x - 4) \\ & \underline{(x^2 + 2)(3x - 4)} \end{aligned}$$