

Algebra /

Factoring a univariate polynomial by grouping: Problem type 1

$$\begin{aligned} & (u^3 - 2u^2) + (6u - 12) \\ &= \underline{u^2(u - 2)} + \underline{6(u - 2)} \\ & \quad \swarrow \quad \searrow \\ & \boxed{(u - 2)(u^2 + 6)} \end{aligned}$$

Use factor by grouping
when you have 4 terms

$$\begin{aligned} & (25x^3 + 35x^2) + (10x + 14) \\ &= \underline{5x^2(5x + 7)} + \underline{2(5x + 7)} \\ & \quad \swarrow \quad \searrow \\ & \boxed{(5x + 7)(5x^2 + 2)} \end{aligned}$$
