

Expand -
multiply out

Simplify -
add/subtract like
terms

Example 1

Expand and simplify each of the following expressions.

(i) $7(x^3 + 2x^2 - 5x) - 2(2 + 3x + 4x^2 - 2x^3)$

(ii) $3x^2(4x^2 - 5x + 6) + 4x(8x^3 - 2x - 3)$

(i)
$$\begin{aligned} & 7(x^3 + 2x^2 - 5x) - 2(2 + 3x + 4x^2 - 2x^3) \\ &= 7x^3 + 14x^2 - 35x - 4 - 6x - 8x^2 + 4x^3 \\ &= 11x^3 + 6x^2 - 41x - 4 \end{aligned}$$

(ii)
$$\begin{aligned} & 3x^2(4x^2 - 5x + 6) + 4x(8x^3 - 2x - 3) \\ &= 12x^4 - 15x^3 + 18x^2 + 32x^4 - 8x^2 - 12x \\ &= 44x^4 - 15x^3 + 10x^2 - 12x \end{aligned}$$