Multiplying and Factoring Polynomials

Multiplying a Monomial and a Trinomial

① $-x^3(8x^2-4x+7)$

$-8x^5+4x^4-7x^3$

Finding the GCF (Greatest Common Factor)

② $25x^4+45x^3+15x^2$

$25x^4 = 5 \cdot 5 \cdot x \cdot x \cdot x \cdot x$

$45x^3 = 3 \cdot 3 \cdot 5 \cdot x \cdot x \cdot x$

$15x^2 = 3 \cdot 5 \cdot x \cdot x$

$GCF = 5 \cdot x \cdot x = 5x^2$

Factoring Out a Monomial

③ $9x^6+15x^4-12x^2$ $\quad GCF = 3x^2$

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