

A2 Polynomials and Factoring

Review how to subtract and multiply polynomials

Review Special Products

Review Factoring Trinomials

Review Factoring by grouping

pg.854

Questions: 1, 8, 10, 18, 27, 32, 44, 56, 70, 74

Question 1

$$2x - 1 + 3x^2$$

$$3x^2 + 2x - 1 \quad - \text{standard form}$$

$$2 \quad - \text{degree}$$

Question 8

$$1 - 3x + x^4$$

$$x^4 - 3x + 1 \quad - \text{standard form}$$

$$4 \quad - \text{degree}$$

Question 10

$$(-3x^2 - 5) - (x^2 + 7x + 12)$$

$$\begin{array}{r} -3x^2 - 5 - x^2 - 7x - 1 \\ \hline \hline \hline \hline \hline \end{array}$$

$$-4x^2 - 7x - 6$$

Question 18

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

$$1 \cdot 2x - x^2 \cdot 2x + x^4 \cdot 2x$$

$$2x - 2x^3 + 2x^5$$

$$2x^5 - 2x^3 + 2x$$

Question 27

$$\begin{aligned}(2u - v)^3 &= (2u)^3 - 3(2u)^2v + 3(2u)v^2 - v^3 \\ &= 8u^3 - 12u^2v + 6uv^2 - v^3\end{aligned}$$

Question 32

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

$$x^2 \cdot x - x^2 \cdot 3 + 3x \cdot x + 3x(-3) - 2x + 6$$

$$x^3 - \cancel{3x^2} + \cancel{3x^2} - 9x - 2x + 6$$

$$x^3 - 11x + 6$$

Question 44

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

$$2x^2 + 6x - 5x - 15$$

$$2x^2 + x - 15$$

Question 56

$$64z^3 + 27$$

$$(4z)^3 + 3^3$$

$$(4z + 3) \left((4z)^2 - 12z + 9 \right)$$

Question 70

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

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

$$2x(x^2 + 1) - 3(x^2 + 1)$$

$$(x^2 + 1)(2x - 3)$$

Question 74

$$\underline{3vw} + \underline{4z} \quad | \quad \underline{2vz} - \underline{2vw} - \underline{8vz}$$

$$3v(w + 4z) - 2v(w + 4z)$$

$$(w + 4z)(3v - 2v)$$