

Adding, Subtracting, Multiplying and Dividing Polynomials

Simplify each expression.

1) $(-8 + a^2 - 3a^4) + (-4a^2 - 4a - 2a^4)$

2) $(4x + 5x^2 - 1) - (-7x + 3 + 8x^2)$

3) $(1 + 4x - 3x^2 - x^4) - (-6x^4 + 5 - 6x)$

4) $(m^2 - 2 - 4m) - (7m - 7) + (8 + 5m + 6m^2)$

Find each product.

5) $(4n - 8)(2n - 3)$

6) $(2x + 7)(2x - 7)$

$$7) (2x + 7)^2$$

$$8) (6u + 8v)(u^2 + 3uv + v^2)$$

$$9) (5x + 5)(-4x^2 + x - 5)$$

$$10) (x^2 + 3x + 6)(5x + 1)$$

$$11) (2m^2 + 8m + 6)(6m^2 - 7m + 8)$$

$$12) (8n^2 - 6n - 4)(n^2 - 4n + 1)$$

Divide.

$$13) (b^3 - 2b^2 + 2b - 23) \div (b - 3)$$

$$14) (6p^3 - 62p^2 + 80p - 24) \div (6p - 2)$$