

Algebra 3 Assignment # 7

Add the following polynomials:

$$(1) \quad \begin{array}{r} 4x^2 + 9x - 17 \\ 2x^3 - 3x^2 + 2x - 11 \end{array}$$

$$(2) \quad \begin{array}{r} 3x^3 - 2x^2 - 8x + 9 \\ 2x^3 + 5x^2 + 2x + 1 \end{array}$$

$$(3) \quad \begin{array}{r} 4x^3 + x^2 - 2x - 13 \\ 2x^2 + 3x + 9 \end{array}$$

Combine the following polynomials:

$$(4) \quad 17. \quad 5y - [y - (3y + 8)]$$

$$(5) \quad (5x - 2xy + x^2y^2) - (2x + xy - x^2y^2)$$

$$(6) \quad -4t \left(t^4 - \frac{1}{4}t^3 + 4t^2 - \frac{1}{16}t + 1 \right)$$

$$(7) \quad (-2x - 3)(3x + 6)$$

$$(8) \quad (-2x - 3)(3x - 6)$$

$$(9) \quad \left(\frac{2}{3}x + 6 \right) \left(\frac{2}{3}x + 6 \right)$$

$$(10) \quad (\sqrt{x} - 10)(\sqrt{x} + 10)$$

$$(11) \quad (\sqrt{x} + \sqrt{2})(\sqrt{x} - \sqrt{2})$$

$$(12) \quad (x - 2)(x^2 + 2x + 4)$$

$$(13) \quad (x^{2n} + 1)(x^{2n} - 2)$$

$$(14) \quad (x^4 - 3x^2 + 5)(2x + 3) + (x^2 + 3x)(4x^3 - 6x)$$

$$(15) \quad (2x + 3)^3$$

$$(16) \quad \frac{12}{\sqrt{5} - \sqrt{3}}$$

Answers:

$$1. \quad 2x^3 - x^2 + 11x - 28$$

$$12. \quad x^3 - 8$$

$$2. \quad 5x^3 + 3x^2 - 6x + 10$$

$$14. \quad 6x^5 + 15x^4 - 12x^3 - 27x^2 + 10x + 15$$

$$3. \quad 4x^3 + 3x^2 + x - 4$$

$$15. \quad 8x^3 + 36x^2 + 54x + 27$$

$$4. \quad 7y + 8$$

$$16. \quad 6\sqrt{5} + 6\sqrt{3}$$

$$5. \quad 2x^2y^2 - 3xy + 3x$$

$$6. \quad -4t^5 + t^4 - 16t^3 + \frac{1}{4}t^2 - 4t$$

$$7. \quad -6x^2 - 21x - 18$$

$$8. \quad -6x^2 + 3x + 18$$

$$9. \quad \frac{4}{9}x^2 + 8x + 36$$

$$10. \quad x - 100$$

$$11. \quad x - 2$$