

Lesson #9: Understanding Polynomials and Multiplying Polynomials
(Reference: Lesson #19 in book)**Problem**

1. Please multiply each of the following polynomials and then get your answer into standard form.

1. $4x^3(3x - 5)$

2. $3x^3(6x^4 + 4x^2 - 2x)$

3. $2xy^4(3x^2y - xy + 4x)$

4. $-7x^2y^2(2xy + 4x^3y^2 + 1)$

5. $(2x - 7y)(4x + 3y)$

6. $(3x^3 - 5y^2)(4x - 6y^2)$

7. $(3x^2y - 4xy^3)(5x^2y^3 + 4xy)$

8. $(6xy - 3x^3y)(x^4y^2 + xy)$

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

10. $(2x^2 - 3y)(4x^3y + 3x^2y^2 - xy^3)$

11. $(3xy - x)(2x^3y - 3xy^2 + x)$

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

13. $(2xy^2 - x)^2$

14. $(4x^2y - 2x)^2$

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15. $(2x^3y - 4x^2y^2 + 2xy^3)^2$

16. $(2x^2 + 3y)^3$