

Lesson 7.2 Multiplying Polynomials Homework

DISTRIBUTING AND COMBINING LIKE TERMS:

DISTRIBUTE, AND THEN COMBINE LIKE TERMS. REMEMBER, ADD THE EXPONENTS WHEN MULTIPLYING VARIABLES.

$$1. \quad 9x - 4(6 - 3x) \quad \begin{array}{l} 9x - 24 + 12x \\ \hline 21x - 24 \end{array}$$

$$2. \quad 5(3b - 2a) - 7b \quad \begin{array}{l} 15b - 10a - 7b \\ \hline -10a + 8b \end{array}$$

$$3. \quad 2(2x + 6) + 3(5x - 7) \quad \begin{array}{l} 4x + 12 + 15x - 21 \\ \hline 19x - 9 \end{array}$$

$$4. \quad 6(4a - 2b) - 2(9b - 7a) \quad \begin{array}{l} 24a - 12b - 18b + 14a \\ \hline 38a - 30b \end{array}$$

$$5. \quad 2y^2(7y + 3x) - 5y^3 \quad \begin{array}{l} 14y^3 + 6xy^2 - 5y^3 \\ \hline 6xy^2 + 9y^3 \end{array}$$

$$6. \quad 3(x^3 + 4x^2) + 2x(x - 7) \quad \begin{array}{l} 3x^3 + 12x^2 + 2x^2 - 14x \\ \hline 3x^3 + 14x^2 - 14x \end{array}$$

$$7. \quad 4(3d^2 + 5d) - d(d^2 - 7d + 12) \quad \begin{array}{l} 12d^2 + 20d - d^3 - 7d^2 + 12d \\ \hline -d^3 + 12d^2 + 8d \end{array}$$

$$8. \quad 3(2t^2 - 4t - 15) + 6t(5t + 2) \quad \begin{array}{l} 6t^2 - 12t - 45 + 30t^2 + 12t \\ \hline 36t^2 - 45 \end{array}$$

MULTIPLYING POLYNOMIALS (FOIL):

DISTRIBUTE FIRST, OUTER, INNER, LAST, AND THEN COMBINE LIKE TERMS.

$$9. \quad (m - 3)(m + 1) \quad \begin{array}{l} m^2 + m - 3m - 3 \\ \hline m^2 - 2m - 3 \end{array}$$

$$10. \quad (2a - 3)(a - 2) \quad \begin{array}{l} 2a^2 - 4a - 3a + 4 \\ \hline 2a^2 - 7a + 4 \end{array}$$

$$11. \quad (3x + 1)(x + 2) \quad \begin{array}{l} 3x^2 + 6x + x + 2 \\ \hline 3x^2 + 7x + 2 \end{array}$$

$$12. \quad (2x - 3)(2x + 2) \quad \begin{array}{l} 4x^2 + 4x - 6x - 6 \\ \hline 4x^2 - 2x - 6 \end{array}$$

$$13. \quad (3a - b)(2a + 4b) \quad \begin{array}{l} 6a^2 + 12ab - 2ab - 4b^2 \\ \hline 6a^2 + 10ab - 4b^2 \end{array}$$

$$14. \quad (2x + y)(3x - 2y) \quad \begin{array}{l} 6x^2 - 4xy + 3xy - 2y^2 \\ \hline 6x^2 - xy - 2y^2 \end{array}$$

$$15. \quad (2b + 1)(b^2 - 5b + 4) \quad \begin{array}{l} 2b^3 - 10b^2 + 8b + b^2 - 5b + 4 \\ \hline 2b^3 - 9b^2 + 3b + 4 \end{array}$$

$$16. \quad (y - 5)(4y^2 - 3y + 2) \quad \begin{array}{l} 4y^3 - 3y^2 + 2y - 20y^2 + 15y - 10 \\ \hline 4y^3 - 23y^2 + 17y - 10 \end{array}$$