

Name: _____

Date: _____

UNIT 2 • POLYNOMIAL FUNCTIONS

Lesson 1: Polynomial Structures and Operating with Polynomials

Practice 2.1.3: Multiplying Polynomials

Simplify each expression.

1. $(11x + 3)(-x^2 + 7)$

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

3. $(-y^2 + 10)(8y^3 + 2y)$

4. $(10x^5 + 4x^2)(2x^2 - 6x + 3)$

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

6. $(7y^6 - 9y^4 + 2)(4y^3 + y^2 - 1)$

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

The area of a rectangle is found using the formula $length \cdot width$. Find the area of a rectangle with the given length and width. All measurements are given in meters.

8. length: $x + 8$; width: $3x - 2$

9. length: $x^2 + 1$; width: $4x + 10$

10. length: $6x + 5$; width: $2x^2 - 3$