Name:

Unit 7 – Day 4 - Study Guide

Classify the polynomial by the degree (linear, quadratic, etc.) and the number of terms (monomial, binomial, etc.)

1. 24

  constant
  monomial

2. $2x$

  linear
  monomial

3. $2x^2 - 3x$

  quadratic
   binomial

4. $12 + 2x^2 - 3x - 4x^3$

  cubic
  polynomial

Add/Subtract and Simplify.

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

  $x^3 - x^2 + 10$

6. $(y^4 - 2y^3 + 5y + 12) - (2 + 5y^2 - 4y)$

  $(y^4 - 2y^3 + 5y + 12) + (-2 - 5y^2 + 4y)$
  $y^4 - 2y^3 - 5y^2 + 9y + 10$

7. $(5x^4 - x^3 + 10x) - (4 + 6x^2)$

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

8. $(12x^3 - x^2 + 10x) - (4x + 5x^2 + 2x)$

  $(12x^3 - x^2 + 10x) + (-4x - 5x^2 - 2x)$
  $12x^3 - 6x^2 + 4x$

Multiply and Simplify.

9. $(x - 2)(x + 5)$

  $x^2 - 2x + 5x - 10$
  $x^2 + 3x - 10$

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

  $6x^2 - 12x + 12x - 24$
  $6x^2 - 24$

11. $5x(-x + 2x^2 - 4)$

  $-5x^2 + 10x^3 - 20x$

12. $(x - 2)(-x + 3x^2 - 1)$

  $-x^2 + 3x^3 - x + 2x - 6x^2 + 2$
  $3x^3 - 7x^2 + 1x + 2$

Multiply and Simplify.

1) $(3x + 1)(3x - 1)$

$9x^2 - 3x + 3x - 1$

$9x^2 - 1$

1. $9x^2 - 1$

2) $(x + 3)^2$

$(x + 3)(x + 3)$

$x^2 + 3x + 3x + 9$

$x^2 + 6x + 9$

2. $x^2 + 6x + 9$

3) $(x - 1)^2$

$(x - 1)(x - 1)$

$x^2 - 1x - 1x + 1$

$x^2 - 2x + 1$

3. $x^2 - 2x + 1$

4) $(2x + 7)^2$

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

$4x^2 + 14x + 14x + 49$

4. $4x^2 + 28x + 49$

5) $(4a - 3b)(4a + 3b)$

$16a^2 + 12ab - 12ab - 9b^2$

5. $16a^2 - 9b^2$