

Chapter 9 — Polynomials: Operations

Worksheet A: Guided Practice

Name: _____ Grade: _____ Date: _____

1. Identify the terms in $5x^3 - 2x + 9$.

Terms are separated by addition or subtraction signs.

2. State the degree and leading coefficient of $-4x^5 + 3x^2 - 7$.

The degree is the highest exponent.

3. From $6x^2$, $-3x$, 4 , x^2 , $8x$, -9 , identify all like-term groups.

Like terms have the same variable part and exponent.

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

Group matching powers and constants.

5. Simplify $(3y^3 - 2y + 8) + (5y^3 + y - 11)$.

Addition does not change signs.

6. Simplify $(7a^2 - 4a + 1) + (2a^2 + 6a - 9)$.

Combine only matching powers of a .

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

Change every sign in the second polynomial.

8. Simplify $(4m^3 - 2m + 6) - (m^3 + 5m - 3)$.

Rewrite the second polynomial with all signs changed.

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

Multiply $3x$ by every term.

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

Distribute the negative monomial to every term.

11. Expand $(2x + 3)(x + 2)$.

Use four products, then combine.

12. Expand $(x - 4)(x + 2)$.

Watch the negative product.

13. Expand $(2x + 1)(x + 4)$.

Use four products.

14. Expand $(x - 3)^2$.

Rewrite as $(x - 3)(x - 3)$.

15. A rectangle has length $x + 4$ and width $x + 3$. Write and simplify its area.

Area equals length times width.
