

## Adding and Subtracting Polynomials

Determine whether each expression is a polynomial. If the expression is not a polynomial, explain why it is not.

1)  $\frac{x}{7} + 10$

2)  $\frac{4}{5}m - \frac{1}{5}$

3)  $\frac{3}{x} - 8$

4)  $-2w^3 + w^2 - 5$

5)  $\sqrt[3]{x} + 12$

6)  $9 + 12x^{-2}$

Write each polynomial in standard form, if necessary. Classify each polynomial as a monomial, binomial, or trinomial. State the degree of the polynomial.

7)  $-4$

Standard Form: \_\_\_\_\_

# of Terms: \_\_\_\_\_

Degree: \_\_\_\_\_

8)  $-9y + 6y^2$

Standard Form: \_\_\_\_\_

# of Terms: \_\_\_\_\_

Degree: \_\_\_\_\_

9)  $5z^2$

Standard Form: \_\_\_\_\_

# of Terms: \_\_\_\_\_

Degree: \_\_\_\_\_

10)  $7 + 3m^2 - 9m$

Standard Form: \_\_\_\_\_

# of Terms: \_\_\_\_\_

Degree: \_\_\_\_\_

11)  $-1 - p^4$

Standard Form: \_\_\_\_\_

# of Terms: \_\_\_\_\_

Degree: \_\_\_\_\_

12)  $-6t^2 + 4t + 3t^4$

Standard Form: \_\_\_\_\_

# of Terms: \_\_\_\_\_

Degree: \_\_\_\_\_

13)  $25x^2y^3$

Standard Form: \_\_\_\_\_

# of Terms: \_\_\_\_\_

Degree: \_\_\_\_\_

14)  $7ab + 3a^2 - 5b^2$

Standard Form: \_\_\_\_\_

# of Terms: \_\_\_\_\_

Degree: \_\_\_\_\_

**Simplify each polynomial expression by finding the sum or the difference.**

15)  $(5x - 8) + (7x + 10)$

16)  $(4m^2 + 9m) - (2m^2 + 6)$

17)  $(-r^2 + 5r - 12) + (2r^2 - 6)$

18)  $(10t^2 - 3t + 9) - (6t^2 + 7t)$

19)  $(2p^4 + 7p^2) + (8p^3 - 3p^2 - p)$

20)  $(2g^4 - 3g^3 + 8g) - (-g^3 + 10g - 2)$