

Chapter 6
Form B

For problems 1 – 2, identify each polynomial as a monomial, binomial, or trinomial. Give the degree of the polynomial.

1. $14xy^7$ 1. _____

2. $-x^7 + 3x^2 - 4$ 2. _____

For problems 3 – 6, add or subtract as indicated.

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

4. $(2x^5 - 4xy^3 + 3y^2) - (-4x^5 + 3xy^3 - y^2)$ 4. _____

5. Subtract $7x^2 - 5x + 2$ from $x^2 - 4x + 3$ 5. _____

6. Evaluate $6x^2y - xy + 7$ for $x = 2, y = -3$ 6. _____

For problems 7 – 14, simplify each expression.

7. $5y^{10} \cdot 2y^{-4}$ 7. _____

8. $(-4y^5)^3$ 8. _____

9. $9^0 - 6^1$ 9. _____

10. $(-2x^4)^3(3x^{-2})^2$ 10. _____

11. $\frac{(3y^{-2})^4}{y^{12}}$ 11. _____

12. $\left(\frac{y^{-3}}{y^4}\right)^{-4}$ 12. _____

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13. $\frac{(5x^3)(2x^{-2})^4}{4x^{-4}}$ 13. _____

For problems 14 – 18, find each product.

14. $-2x^2y^3(4x^3y^2 - 7x^2y - 3x)$ 14. _____

15. $(2x - 5)(3x + 4)$ 15. _____

16. $(3y - 8)^2$ 16. _____

17. $(2a - 3b)(2a + 3b)$ 17. _____

18. $(5t - 1)(25t^2 + 5t + 1)$ 18. _____

For problems 19 – 20, divide.

19. $\frac{20x^3y^2 - 12x^2y + 16xy}{4xy}$ 19. _____

20. $\frac{8x^3 - 2x^2 - 7x - 5}{4x - 3}$ 20. _____

21. Write 1.78×10^{-3} in decimal notation. 21. _____

22. Write 42,500 in scientific notation. 22. _____

23. Simplify $(5.4 \times 10^{-7})(3.2 \times 10^{-4})$ 23. _____

24. Simplify $\frac{6.6 \times 10^9}{1.1 \times 10^{-5}}$ 24. _____

25. The mass of a proton is approximately 1.7×10^{-24} gram. Find the mass of 5 billion protons. Express your answer in scientific notation. 25. _____