

**Chapter 6**  
**Form C**

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

1.  $-15x^7y^2 - 8x^5y^4 + 7x^6y^5$  1. \_\_\_\_\_

2.  $7x^5 - 2x^2$  2. \_\_\_\_\_

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

3.  $\left(\frac{4}{5}x^4 - \frac{1}{2}x^3 - 1\right) + \left(\frac{1}{2}x^4 + \frac{3}{5}x^2 + \frac{1}{3}\right)$  3. \_\_\_\_\_

4.  $(6x^4y^3 - 7x^3y^3 + 3x^2y^2) - (3x^4y^3 + 3x^3y^3 - 3x^2y^2)$  4. \_\_\_\_\_

5. Subtract  $-7x^3 - 3x^2 + 4x - 5$  from  $-x^3 + 3x - 6$ . 5. \_\_\_\_\_

6. Evaluate  $-xy^2 + 3xy - 4y$  for  $x = -1, y = -3$ . 6. \_\_\_\_\_

For problems 7 – 13, simplify each expression.

7.  $4y^2 \cdot 4^{-4}x^5 \cdot x^{-2}$  7. \_\_\_\_\_

8.  $(-3x^4y^5)^4$  8. \_\_\_\_\_

9.  $2x^0 + 3^1$  9. \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

10.  $(3xy^4)^3(-2x^{-2}y^3)^2$  10. \_\_\_\_\_

11.  $\frac{(5x^{-2}y)^4}{(5x^2y^{-3})^2}$  11. \_\_\_\_\_

12.  $\left(\frac{4x^{-1}y^{-2}}{x^4}\right)^{-1}$  12. \_\_\_\_\_

13.  $\frac{(8x)^2(2x^{-4})^{-2}}{2x^{-4}}$  13. \_\_\_\_\_

For problems 14 – 18, find each product.

14.  $-2x^2y^3(5x^3y^2 - 4x^2y^3 + 3x^2y^2)$  14. \_\_\_\_\_

15.  $(8x - 3)(5x + 3)$  15. \_\_\_\_\_

16.  $(5x + 2y)^2$  16. \_\_\_\_\_

17.  $(t^2 + 5)(t^2 - 5)$  17. \_\_\_\_\_

18.  $(4y - 3)(16y^2 + 12y + 9)$  18. \_\_\_\_\_

For problems 19 – 20, divide.

19.  $\frac{40x^2y - 25xy^2 + 50xy}{-5xy}$  19. \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

20.  $\frac{x^3 - 8}{x - 2}$

20. \_\_\_\_\_

21. Write  $1.43 \times 10^7$  in decimal notation.

21. \_\_\_\_\_

22. Write 0.0000159 in scientific notation.

22. \_\_\_\_\_

23. Simplify  $(4.8 \times 10^5)(3.2 \times 10^6)$

23. \_\_\_\_\_

24. Simplify  $\frac{17.6 \times 10^{-4}}{4.4 \times 10^{-8}}$

24. \_\_\_\_\_

25. Write a polynomial in descending powers of  $x$  that represents the area of the figure below.

25. \_\_\_\_\_

