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Chapter 5
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 – 5, 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. $\left(-3x^4y^5\right)^4$ 8. _____

9. $2x^0 + 3^1$ 9. _____

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

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

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

13. $\dfrac{(8x)^2(2x^{-4})^{-2}}{2x^{-4}}$ 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. $\dfrac{40x^2y-25xy^2+50xy}{-5xy}$ 19. _____

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

21. Write 1.43×10^7 in decimal notation. 21. _____

22. Write 0.0000159 in scientific notation. 22. _____

For problems 23 – 24, perform the indicated computation. Write the answers in scientific notation.

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

24. $\dfrac{17.6 \times 10^{-4}}{4.4 \times 10^{-8}}$ 24. _____

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