

**LESSON**  
**8.1**

**Practice A**

*For use with the lesson "Add and Subtract Polynomials"*

**Write the polynomial so that the exponents decrease from left to right. Identify the degree and leading coefficient of the polynomial.**

- |                        |                             |                        |
|------------------------|-----------------------------|------------------------|
| 1. $8n^6$              | 2. $-9z + 1$                | 3. $4 + 2x^5$          |
| 4. $18x - x^2 + 2$     | 5. $3y^3 + 4y^2 + 8$        | 6. $m - 20m^3 + 5$     |
| 7. $-8 + 10a^4 - 3a^7$ | 8. $4z + z^3 - 5z^2 + 6z^4$ | 9. $8h^3 - 6h^4 + h^7$ |

**Tell whether the expression is a polynomial. If it is a polynomial, find its degree and classify it by the number of its terms. Otherwise, tell why it is not a polynomial.**

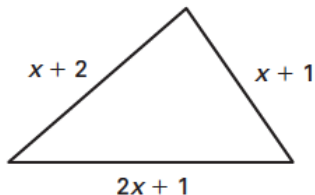
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|----------------|-------------------------------|-------------------|
| 10. $6m^2$     | 11. $3^x$                     | 12. $y^{-2} + 4$  |
| 13. $3b^2 - 2$ | 14. $\frac{1}{2}x^2 - 2x + 1$ | 15. $6x^3 - 1.4x$ |

**Find the sum or difference.**

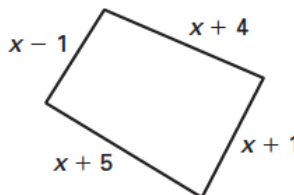
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| 16. $(6x + 4) + (x + 5)$                 | 17. $(4m^2 - 5) + (3m^2 - 2)$          |
| 18. $(2y^2 + y - 1) + (7y^2 + 4y - 3)$   | 19. $(3x^2 + 5) - (x^2 + 2)$           |
| 20. $(10a^2 + 4a - 5) - (3a^2 + 2a + 1)$ | 21. $(m^2 - 3m + 4) - (-m^2 + 5m + 1)$ |

**Write a polynomial that represents the perimeter of the figure.**

22.



23.



24. **Library Books** For 1995 through 2005, the number  $F$  of fiction books (in ten thousands) and the number  $N$  of nonfiction books (in ten thousands) borrowed from a library can be modeled by

$$F = 0.01t^2 + 0.08t + 7 \quad \text{and} \quad N = 0.004t^2 + 0.05t + 5$$

where  $t$  is the number of years since 1995. Find the total number  $B$  of books borrowed from the library in a year from 1995 to 2005.

25. **Photograph Mat** A mat in a frame has an opening for a photograph as shown in the figure. Find the area of the mat if the area of the opening is given by  $A = \pi ab$ . Leave your answer in terms of  $\pi$ .

