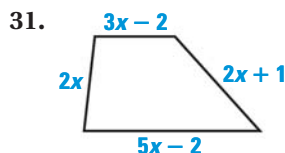
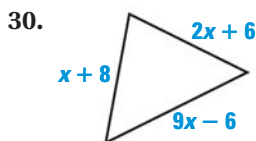


 **GEOMETRY** Write a polynomial that represents the perimeter of the figure.



**ADDING AND SUBTRACTING POLYNOMIALS** Find the sum or difference.

32.  $(3r^2s + 5rs + 3) + (-8rs^2 - 9rs - 12)$       33.  $(x^2 + 11xy - 3y^2) + (-2x^2 - xy + 4y^2)$

34.  $(5mn + 3m - 9n) - (13mn + 2m)$       35.  $(8a^2b - 6a) - (2a^2b - 4b + 19)$

36. **CHALLENGE** Consider any integer  $x$ . The next consecutive integer can be represented by the binomial  $(x + 1)$ .

- Write a polynomial for the sum of any two consecutive integers.
- Explain* how you can be sure that the sum of two consecutive integers is always odd. Use the polynomial from part (a) in your explanation.

## PROBLEM SOLVING

### EXAMPLE 5

on p. 556  
for Exs. 37–39

37. **BACKPACKING AND CAMPING** During the period 1992–2002, the participation  $B$  (in millions of people) in backpacking and the participation  $C$  (in millions of people) in camping can be modeled by

$$B = -0.0262t^3 + 0.376t^2 - 0.574t + 9.67 \text{ and}$$

$$C = -0.0182t^3 + 0.522t^2 - 2.59t + 47$$

where  $t$  is the number of years since 1992. About how many more people camped than backpacked in 2002?


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38. **CAR COSTS** During the period 1990–2002, the average costs  $D$  (in dollars) for a new domestic car and the average costs  $I$  (in dollars) for a new imported car can be modeled by

$$D = 442.14t + 14,433 \text{ and } I = -137.63t^2 + 2705.2t + 15,111$$

where  $t$  is the number of years since 1990. Find the difference in average costs (in dollars) for a new imported car and a new domestic car in 2002.

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39.  **TAKS REASONING** During the period 1998–2002, the number  $A$  (in millions) of books for adults and the number  $J$  (in millions) of books for juveniles sold can be modeled by

$$A = 9.5t^3 - 58t^2 + 66t + 500 \text{ and } J = -15t^2 + 64t + 360$$

where  $t$  is the number of years since 1998.

- Write an equation that gives the total number (in millions) of books for adults and for juveniles sold as a function of the number of years since 1998.
- Were more books sold in 1998 or in 2002? *Explain* your answer.

