

# Pg 342

12. Expand.

- a)  $-6(c + 4)$     b)  $-8(a - 5)$   
 c)  $10(f - 7)$     d)  $3(-8 - g)$   
 e)  $-8(8 - y)$     f)  $-2(-s + 5)$   
 g)  $-5(-t - 8)$     h)  $-9(9 - w)$

13. **Assessment Focus** Which pairs of expressions are equivalent?

Explain your reasoning.

- a)  $2x + 20$  and  $2(x + 20)$   
 b)  $3x + 7$  and  $10x$   
 c)  $6 + 2t$  and  $2(t + 3)$   
 d)  $9 + x$  and  $x + 9$

14. There are 15 players on the Grade 8 baseball team. Each player needs a baseball cap and a team jersey.

A team jersey costs \$25. A baseball cap costs \$14.

- a) Write 2 different expressions to find the cost of supplying the team with caps and jerseys.  
 b) Evaluate each expression. Which expression did you find easier to evaluate? Explain.

15. Five friends go to the movies.

They each pay \$9 to get in, and \$8 for a popcorn and drink combo.

- a) Write 2 different expressions to find the total cost of the outing.  
 b) Evaluate each expression. Which expression was easier to evaluate? Justify your choice.

16. Match each expression in Column 1 with an equivalent expression in Column 2.

Column 1	Column 2
a) $6(t - 6)$	i) $6t + 36$
b) $-6(t - 6)$	ii) $-6t + 36$
c) $-6(t + 6)$	iii) $-6t - 36$
d) $6(6 + t)$	iv) $6t - 36$

17. **Take It Further**

Harvey won some money on a scratch-and-win ticket. Then, he won a \$2 bonus. When he arrived at the counter, he noticed that he had also won a "triple your winnings" ticket. As Harvey was cashing in his prize, the cashier told him he was the 100th customer, so his total winnings were automatically doubled. Write two algebraic expressions to describe Harvey's winnings.

18. **Take It Further**

- a) Expand.  
 i)  $7(5 + y - 2)$   
 ii)  $-3(-t + 8 - 3)$   
 iii)  $-8(-9 + s + 5)$   
 iv)  $12(-10 - p + 7)$

## Pg 347

### Check

4. Solve each equation using the distributive property. Verify the solution.
  - a)  $3(x + 5) = 36$
  - b)  $4(p - 6) = 36$
  - c)  $5(y + 2) = 25$
  - d)  $10(a + 8) = 30$
  
5. Solve each equation. Verify the solution.
  - a)  $-2(a + 4) = 18$
  - b)  $-3(r - 5) = -27$
  - c)  $7(-y + 2) = 28$
  - d)  $-6(c - 9) = -42$
  
6. Marc has some hockey cards. His friend gives him 3 more cards. Marc says that if he now doubles the number of cards he has, he will have 20 cards. How many cards did Marc start with?
  - a) Choose a variable to represent the number of cards Marc started with. Write an equation to model this problem.
  - b) Solve the equation using the distributive property.
  - c) Verify the solution. Explain your thinking in words.
  
7. A student wrote this equation to solve the problem in question 6:  
 $2n + 3 = 20$   
How would you explain to the student why this is incorrect?

### Apply

8. The perimeter of a rectangle is 26 cm. The rectangle has length 8 cm. What is the width of the rectangle?
  - a) Write an equation that can be solved using the distributive property.
  - b) Solve the equation.
  - c) Verify the solution.
  
9. **Assessment Focus** The price of a souvenir T-shirt was reduced by \$5. Jason bought 6 T-shirts for his friends. The total cost of the T-shirts, before taxes, was \$90. What was the price of a T-shirt before it was reduced?
  - a) Write an equation to model this problem.
  - b) Solve the equation.
  - c) Verify the solution. Explain how you know it is correct.
  
10. Chuck and 7 friends went to Red Deer's Westerner Days fair. The cost of admission was \$6 per person. They each bought an unlimited midway ride ticket. The total cost of admission and rides for Chuck and his friends was \$264. What was the price of an unlimited midway ride ticket?
  - a) Write an equation to model this problem.
  - b) Solve the equation. Verify the solution.

