Example 1

1. **PILOT** A pilot at an air show charges $25 per passenger for rides. If 12 adults and 15 children ride in one day, write and evaluate an expression to describe the situation.

Example 2   Use the Distributive Property to rewrite each expression. Then evaluate.

2. $14(51)$ 3. $6\frac{1}{9}(9)$

Example 3   Use the Distributive Property to rewrite each expression. Then simplify.

4. $2(4 + t)$ 5. $(g - 9)5$

Example 4   Simplify each expression. If not possible, write *simplified*.

6. $15m + m$ 7. $3x^3 + 5y^3 + 14$ 8. $(5m + 2m)10$

Example 5   Write an algebraic expression for each verbal expression. Then simplify, indicating the properties used.

9. 4 times the sum of 2 times x and six

10. one half of 4 times y plus the quantity of y and 3

Practice and Problem Solving   Extra Practice is on page R1.

Example 1

11. **TIME MANAGEMENT** Margo uses dots to track her activities on a calendar. Red dots represent homework, yellow dots represent work, and green dots represent track practice. In a typical week, she uses 5 red dots, 3 yellow dots, and 4 green dots. How many activities does Margo do in 4 weeks?

12. **CCSS REASONING** The Red Cross is holding blood drives in two locations. In one day, Center 1 collected 715 pints and Center 2 collected 1035 pints. Write and evaluate an expression to estimate the total number of pints of blood donated over a 3-day period.

Example 2   Use the Distributive Property to rewrite each expression. Then evaluate.

13. $(4 + 5)6$ 14. $7(13 + 12)$ 15. $6(6 - 1)$

16. $(3 + 8)15$ 17. $14(8 - 5)$ 18. $(9 - 4)19$

19. $4(7 - 2)$ 20. $7(2 + 1)$ 21. $7 \cdot 497$

22. $6(525)$ 23. $36 \cdot 3\frac{1}{4}$ 24. $\left(4\frac{2}{7}\right)21$

Example 3   Use the Distributive Property to rewrite each expression. Then simplify.

25. $2(x + 4)$ 26. $(5 + n)3$

27. $(4 - 3m)8$ 28. $-3(2x - 6)$

Example 4   Simplify each expression. If not possible, write *simplified*.

29. $13r + 5r$ 30. $3x^3 - 2x^2$ 31. $7m + 7 - 5m$

32. $5z^2 + 3z + 8z^2$ 33. $(2 - 4n)17$ 34. $11(4d + 6)$

35. $7m + 2m + 5p + 4m$ 36. $3x + 7(3x + 4)$ 37. $4(fg + 3g) + 5g$

Example 5   Write an algebraic expression for each verbal expression. Then simplify, indicating the properties used.

38. the product of 5 and m squared, increased by the sum of the square of m and 5

39. 7 times the sum of a squared and b minus 4 times the sum of a squared and b