

1-4 Practice***The Distributive Property***

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

1. $9(7 + 8)$

2. $7(6 - 4)$

3. $(4 + 6)11$

4. $9 \cdot 499$

5. $7 \cdot 110$

6. $16\left(4\frac{1}{4}\right)$

Use the Distributive property to rewrite each expression. Then simplify.

7. $(9 - p)3$

8. $(5y - 3)7$

9. $15\left(f + \frac{1}{3}\right)$

10. $16(3b - 0.25)$

11. $m(n + 4)$

12. $(c - 4)d$

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

13. $w + 14w - 6w$

14. $3(5 + 6h)$

15. $12b^2 + 9b^2$

16. $25t^3 - 17t^3$

17. $3a^2 + 6a + 2b^2$

18. $4(6p + 2q - 2p)$

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

19. 4 times the difference of f squared and g , increased by the sum of f squared and $2g$

20. 3 times the sum of x and y squared plus 5 times the difference of $2x$ and y

21. **DINING OUT** The Ross family recently dined at an Italian restaurant. Each of the four family members ordered a pasta dish that cost \$11.50, a drink that cost \$1.50, and dessert that cost \$2.75.

a. Write an expression that could be used to calculate the cost of the Ross' dinner before adding tax and a tip.

b. What was the cost of dining out for the Ross family?

1-5 Skills Practice**Equations**

Find the solution of each equation if the replacement sets are $A = \{4, 5, 6, 7, 8\}$ and $B = \{9, 10, 11, 12, 13\}$.

1. $5a - 9 = 26$

2. $4a - 8 = 16$

3. $7a + 21 = 56$

4. $3b + 15 = 48$

5. $4b - 12 = 28$

6. $\frac{36}{b} - 3 = 0$

Find the solution of each equation using the given replacement set.

7. $\frac{1}{2} + x = \frac{5}{4}; \left\{\frac{1}{2}, \frac{3}{4}, 1, \frac{5}{4}\right\}$

8. $x + \frac{2}{3} = \frac{13}{9}; \left\{\frac{5}{9}, \frac{2}{3}, \frac{7}{9}\right\}$

9. $\frac{1}{4}(x + 2) = \frac{5}{6}; \left\{\frac{2}{3}, \frac{3}{4}, \frac{5}{4}, \frac{4}{3}\right\}$

10. $0.8(x + 5) = 5.2; \{1.2, 1.3, 1.4, 1.5\}$

Solve each equation.

11. $10.4 - 6.8 = x$

12. $y = 20.1 - 11.9$

13. $\frac{46 - 15}{3 + 28} = a$

14. $c = \frac{6 + 18}{31 - 25}$

15. $\frac{2(4) + 4}{3(3 - 1)} = b$

16. $\frac{6(7 - 2)}{3(8) + 6} = n$

17. SHOPPING ONLINE Jennifer is purchasing CDs and a new CD player from an online store. She pays \$10 for each CD, as well as \$50 for the CD player. Write and solve an equation to find the total amount Jennifer spent if she buys 4 CDs and a CD player from the store.

18. TRAVEL An airplane can travel at a speed of 550 miles per hour. Write and solve an equation to find the time it will take to fly from London to Montreal, a distance of approximately 3300 miles.

1-5 Practice**Equations**

Find the solution of each equation if the replacement sets are $a = \left\{0, \frac{1}{2}, 1, \frac{3}{2}, 2\right\}$ and $b = \{3, 3.5, 4, 4.5, 5\}$.

1. $a + \frac{1}{2} = 1$

2. $4b - 8 = 6$

3. $6a + 18 = 27$

4. $7b - 8 = 16.5$

5. $120 - 28a = 78$

6. $\frac{28}{b} + 9 = 16$

Solve each equation.

7. $x = 18.3 - 4.8$

8. $w = 20.2 - 8.95$

9. $\frac{37 - 9}{18 - 11} = d$

10. $\frac{97 - 25}{41 - 23} = k$

11. $y = \frac{4(22 - 4)}{3(6) + 6}$

12. $\frac{5(2^2) + 4(3)}{4(2^3 - 4)} = p$

13. **TEACHING** A teacher has 15 weeks in which to teach six chapters. Write and then solve an equation that represents the number of lessons the teacher must teach per week if there is an average of 8.5 lessons per chapter.

14. **CELL PHONES** Gabriel pays \$40 a month for basic cell phone service. In addition, Gabriel can send text messages for \$0.20 each. Write and solve an equation to find the total amount Gabriel spent this month if he sends 40 text messages.