



CHAPTER 1

Tools of Algebra



What You've Learned

California Content Standards

7AF 1.0 Express quantitative relationships using algebraic expressions.

7AF 1.2 Use the correct order of operations to evaluate algebraic expressions.

7NS 1.2 Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals).

7AF 1.3 Simplify numerical expressions by applying properties of rational numbers and justify the process used.



Check Your Readiness



GO for Help to the Lesson in green.

Simplifying Fractions (Skills Handbook page 598)

Write in simplest form.

1. $\frac{12}{15}$

2. $\frac{20}{28}$

3. $\frac{33}{77}$

4. $\frac{8}{56}$

5. $\frac{48}{52}$

Adding and Subtracting Fractions (Skills Handbook page 600)

Add or subtract. Write each answer in simplest form.

6. $\frac{1}{8} + \frac{1}{6}$

7. $\frac{27}{33} - \frac{6}{22}$

8. $\frac{3}{4} + \frac{7}{10}$

9. $\frac{12}{13} - \frac{1}{3}$

10. $5\frac{7}{10} + 6\frac{7}{8}$

11. $7\frac{5}{6} - 3\frac{1}{4}$

12. $3\frac{5}{12} - 1\frac{7}{12}$

13. $4\frac{5}{7} + 8\frac{3}{4}$

Multiplying and Dividing Fractions (Skills Handbook page 601)

Multiply or divide. Write each answer in simplest form.

14. $\frac{2}{3} \cdot \frac{5}{8}$

15. $\frac{5}{6} \div \frac{3}{4}$

16. $\frac{4}{5} \cdot \frac{5}{7}$

17. $\frac{7}{8} \div \frac{1}{2}$

18. $2\frac{3}{4} \cdot 1\frac{1}{5}$

19. $3\frac{2}{3} \div \frac{3}{8}$

20. $4\frac{5}{6} \cdot 2\frac{1}{2}$

21. $4\frac{2}{5} \div 1\frac{1}{3}$

Using Exponents (Skills Handbook page 603)

Write using exponents.

22. $9 \cdot 9 \cdot 9 \cdot 9 \cdot 9$

23. $5 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7$

24. $2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$

25. $4 \cdot 4 \cdot 4 \cdot 4 \cdot 7 \cdot 7$

26. $5 \cdot 5 \cdot 5 \cdot 8 \cdot 8 \cdot 3$

27. $2 \cdot 6 \cdot 6 \cdot 6 \cdot 6 \cdot 2 \cdot 6 \cdot 6 \cdot 2$

Write in standard form.

28. 5^3

29. 8^4

30. 11^2

31. $9^2 \cdot 6^1$

32. $4^3 \cdot 2^2$