

Chapter 4: Fractions and Mixed Numbers

4.2 Factors and Simplest Form

Learning Objectives

1. Write a Number as a Product of Prime Numbers
2. Write a Fraction in Simplest Form
3. Determine Whether Two Fractions are Equivalent
4. Solve Problems by Writing Fractions in Simplest Form

Objective 1. Write a Number as a Product of Prime Numbers

Write the prime factorization of the number.

1) 66

2) 175

3) 198

- 4) Determine which numbers in the list below are divisible by both 3 and 5.

30,135 164 590 7080 5325 4557

Objective 2. Write a Fraction in Simplest Form

Write the fraction in simplest form.

5) $\frac{12}{18}$

6) $-\frac{36}{63}$

7) $\frac{60}{105}$

8) $-\frac{44}{60x}$

9) $\frac{80vw^2x}{100v^3w^3x^3}$

Objective 3. Determine Whether Two Fractions Are Equivalent

Determine whether the pair of fractions is equivalent.

10) $\frac{4}{12}$ and $\frac{6}{18}$

11) $\frac{7}{8}$ and $\frac{140}{128}$

Objective 4. Solve Problems by Writing Fractions in Simplest Form.

Solve. Write the fraction in simplest form.

- 12) There are 45 students in a math class. If 18 of the students like the teacher, what fraction of the students like the teacher?
- 13) There are 100 centimeters in 1 meter. What fraction of a meter is 8 centimeters?
- 14) Sally bought a used car for \$11,700. Her old car was traded in for \$4500. What fraction of the purchase price was not covered by the trade-in?