

Lesson 3-6

Adding and Subtracting Unlike Fractions

ISG Interactive Study Guide

See pages 63–64 for:

- Getting Started
- Real-World Link
- Notes

e Essential Question

What happens when you add, subtract, multiply, and divide rational numbers?

CCSS Common Core State Standards

Content Standards
7.NS.1, 7.NS.1d, 7.NS.3,
7.EE.3

Mathematical Practices
1, 3, 4

Vocab Vocabulary

unlike fractions

What You'll Learn

- Add unlike fractions.
- Subtract unlike fractions.



Real-World Link

Climate The Sahara Desert covers almost eleven countries, fully or partially. It is one of the driest places in the world, receiving only a couple of inches of rainfall each year.



Key Concept Add Unlike Fractions

Words To add fractions with unlike denominators, rename the fractions with a common denominator. Then add and simplify as with like fractions.

Symbols

$$\frac{2}{3} + \frac{1}{2} = \frac{2}{3} \cdot \frac{2}{2} + \frac{1}{2} \cdot \frac{3}{3}$$

$$= \frac{4}{6} + \frac{3}{6}$$

$$= \frac{7}{6} \text{ or } 1\frac{1}{6}$$

Unlike fractions are fractions with different denominators. Use the least common multiple of the denominators to rename the fractions before adding them.

Example 1

Find $\frac{3}{5} + \frac{1}{3}$. Write in simplest form.

$$\frac{3}{5} + \frac{1}{3} = \frac{3}{5} \cdot \frac{3}{3} + \frac{1}{3} \cdot \frac{5}{5}$$

$$= \frac{9}{15} + \frac{5}{15}$$

$$= \frac{14}{15}$$

Check for Reasonableness $\frac{14}{15} \approx 1$ ✓

Estimate $1 + 0 = 1$

Use $3 \cdot 5$ or 15 as the common denominator.

Rename each fraction with the common denominator.

Add the numerators.

Got It? Do these problems to find out.

Find each sum. Write in simplest form.

1a. $\frac{1}{6} + \frac{3}{4}$

1c. $\frac{2}{5} + \frac{3}{10}$

1b. $\frac{2}{7} + \frac{3}{14}$

1d. $\frac{3}{8} + \frac{5}{24}$



$$\frac{1}{3} \cdot \frac{2}{2} = \frac{2}{6}$$



$$\frac{2}{6}$$

$$\frac{2}{7} \cdot \frac{2}{2} = \frac{4}{14}$$

$$\frac{3}{14} + \frac{4}{14} = \frac{7}{14}$$