Name _____

Reteaching
10-2

Add Fractions with Unlike Denominators

When you add fractions with unlike denominators, you need to change the fractions to equivalent fractions so they have a **common denominator**.

Example 1 Hassan used $\frac{1}{4}$ of a bag of black potting soil and $\frac{2}{3}$ of a bag of soil with clay in his container garden. How much soil did he use altogether? Find $\frac{1}{4} + \frac{2}{3}$.

Step 1 Rewrite the fractions using a common denominator. Think: What number has 4 and 3 as factors? 12

$\frac{1}{4} \xrightarrow{\times 3} \frac{3}{12}$ + $\frac{2}{3} \xrightarrow{\times 4} \frac{8}{12}$

Step 2 Add the new fractions. Write the sum in simplest form.

$$\begin{array}{r} \frac{1}{4} = \frac{3}{12} \\ +\ \frac{2}{3} = \frac{8}{12} \\ \hline \frac{11}{12} \end{array}$$

$\frac{11}{12}$ is already in simplest form.

Hassan used $\frac{11}{12}$ of a bag of soil altogether.

Example 2 When one denominator is a factor of the other denominator, you have to rewrite only one of the fractions. Find $\frac{2}{3} + \frac{2}{9}$.

Step 1 3 is a factor of 9, so rewrite $\frac{2}{3}$ with a denominator of 9.

$\frac{2}{3} \xrightarrow{\times 3} \frac{6}{9}$

Step 2 Add the new fractions.

$$\begin{array}{r} \frac{2}{3} = \frac{6}{9} \\ +\ \frac{2}{9} = \frac{2}{9} \\ \hline \frac{8}{9} \end{array}$$

$\frac{8}{9}$ is already in simplest form.

Write the answers in simplest form.

1. $\frac{3}{5} + \frac{1}{10}$ _____

2. $\frac{1}{2} + \frac{1}{8}$ _____

3. $\frac{1}{6} + \frac{2}{3}$ _____

4. $\frac{7}{12} + \frac{1}{3}$ _____

5. $\frac{1}{3} + \frac{2}{9}$ _____

6. $\frac{3}{8} + \frac{1}{4}$ _____

7. $\frac{1}{4} + \frac{1}{6}$ _____

8. $\frac{2}{5} + \frac{1}{2}$ _____

9. $\frac{1}{3} + \frac{2}{5}$ _____

10. $\frac{1}{2} + \frac{3}{10}$ _____