

ADDING AND SUBTRACTING FRACTIONS

Essential Question: How do you add & subtract fractions without common denominators?

$\frac{5}{12}$ ← numerator
↓
12 ← denominator

Add or Subtract. Write answer in simplest form.

$$1) \frac{5}{8} + \frac{1}{6} \quad 2) \frac{15}{24} - \frac{7}{12} \quad 3) \frac{3}{5} + \frac{5}{6} \quad 4) \frac{2}{7} - \frac{1}{8}$$

$$\begin{array}{cccc} \frac{5 \cdot 3}{8 \cdot 3} + \frac{1 \cdot 4}{6 \cdot 4} & \frac{15}{24} - \frac{7 \cdot 2}{12 \cdot 2} & \frac{3 \cdot 6}{5 \cdot 6} + \frac{5 \cdot 5}{6 \cdot 5} & \frac{2 \cdot 8}{7 \cdot 8} - \frac{1 \cdot 7}{8 \cdot 7} \\ \frac{15}{24} & \frac{15}{24} - \frac{14}{24} = \frac{1}{24} & \frac{18}{30} + \frac{25}{30} = \frac{43}{30} & \frac{16}{56} - \frac{7}{56} = \frac{9}{56} \\ \frac{15}{24} + \frac{4}{24} = \frac{19}{24} & \frac{15}{24} - \frac{14}{24} = \frac{1}{24} & \text{or } \frac{13}{30} & \end{array}$$

$$\begin{array}{cccc} 5) 5\frac{2}{3} + 2\frac{1}{4} & 6) 5\frac{1}{5} - 1\frac{1}{7} & 7) 7\frac{3}{10} + 3\frac{2}{3} & 8) 8\frac{5}{9} - 2\frac{1}{3} \\ \frac{2 \cdot 4}{3 \cdot 4} + 2\frac{1 \cdot 3}{4 \cdot 3} & \frac{5 \cdot 7}{5 \cdot 7} - 1\frac{1 \cdot 5}{7 \cdot 5} & \frac{7 \cdot 3}{10 \cdot 3} + 3\frac{2 \cdot 10}{3 \cdot 10} & \frac{8 \cdot 5}{9 \cdot 9} - 2\frac{1 \cdot 3}{3 \cdot 3} \\ \frac{8}{12} + 2\frac{3}{12} & \frac{5}{35} - 1\frac{5}{35} & \frac{9}{30} + 3\frac{20}{30} & \frac{5}{9} - 2\frac{3}{9} \\ 7\frac{11}{12} & 4\frac{2}{35} & \frac{29}{30} & \end{array}$$

On Your Own

$$1) 4\frac{3}{4} - 2\frac{3}{10} \quad 2) 6\frac{3}{25} + 7\frac{1}{2} \quad 6\frac{2}{9}$$

$$4\frac{3 \cdot 5}{4 \cdot 5} - 2\frac{3 \cdot 2}{10 \cdot 2} \quad \frac{6 \cdot 3 \cdot 2}{25 \cdot 2} + 7\frac{1 \cdot 25}{2 \cdot 25}$$

$$4\frac{15}{20} - 2\frac{6}{20} = 2\frac{9}{20} \quad 6\frac{6}{50} + 7\frac{25}{50} = 13\frac{31}{50}$$

A recipe calls for $\frac{1}{2}$ cup of chopped walnuts and $\frac{3}{5}$ cup of diced walnuts. In total how many cups of walnuts did the recipe call for?

$$\begin{array}{l} \frac{1 \cdot 5}{2 \cdot 5} + \frac{3 \cdot 2}{5 \cdot 2} \\ \frac{5}{10} + \frac{6}{10} = \frac{11}{10} \text{ or } 1\frac{1}{10} \end{array}$$

You have $3\frac{3}{4}$ pounds of taffy. You eat $1\frac{1}{3}$ pound of taffy. How many pounds of taffy do you have left?

$$3\frac{3 \cdot 3}{4 \cdot 3} - 1\frac{1 \cdot 4}{3 \cdot 4}$$

$$3\frac{9}{12} - 1\frac{4}{12} = 2\frac{5}{12}$$

The recipe calls for $1\frac{1}{10}$ cups of walnuts

I have $2\frac{5}{12}$ pounds of taffy left.

STEPS FOR ADDING OR SUBTRACTING FRACTIONS WITH UNLIKE DENOMINATORS

- 1)Find the Least Common Denominator (LCD) or LCM.
- 2)Rewrite fractions as equivalent fractions by multiplying the numerator and denominator of each fraction by a number so that they have the LCM as their new denominator.
- 3)Add or subtract the numerators and keep the denominator the same. If there are whole numbers, add or subtract them.
- 4)Simplify the fractions, if necessary, by dividing the numerator and denominator by the GCF.