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Rename Fractions and Mixed Numbers

A **mixed number** is made up of a whole number and a fraction. You can use multiplication and addition to rename a mixed number as a fraction greater than 1.

Rename $2\frac{5}{6}$ as a fraction.

First, multiply the denominator, or the number of parts in the whole, by the whole number.

$$6 \times 2 = 12$$

Then, add the numerator to your product.

$$12 + 5 = 17$$

$$\text{So, } 2\frac{5}{6} = \frac{17}{6}.$$

$$2 \frac{5}{6} = \frac{17}{6}$$

total number
of parts
number of
parts in the whole

You can use division to write a fraction greater than 1 as a mixed number.

Rename $\frac{16}{3}$ as a mixed number.

To rename $\frac{16}{3}$ as a mixed number, divide the numerator by the denominator.

Use the quotient and remainder to write a mixed number.

$$\text{So, } \frac{16}{3} = 5\frac{1}{3}.$$

$$\begin{array}{r} 5 \\ 3 \overline{)16} \\ \underline{-15} \\ 1 \end{array}$$

Write the mixed number as a fraction.

1. $3\frac{2}{3} =$ _____

2. $4\frac{3}{5} =$ _____

3. $4\frac{3}{8} =$ _____

4. $2\frac{1}{6} =$ _____

Write the fraction as a mixed number.

5. $\frac{32}{5} =$ _____

6. $\frac{19}{3} =$ _____

7. $\frac{15}{4} =$ _____

8. $\frac{51}{10} =$ _____

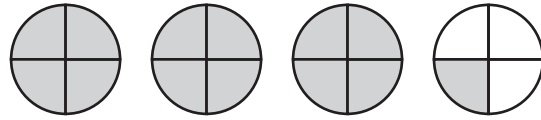
Name _____

Add and Subtract Mixed Numbers

Find the sum. $3\frac{1}{4} + 2\frac{1}{4}$

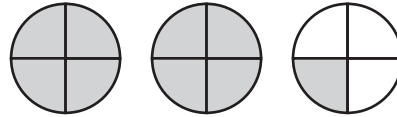
Add the whole number and fraction parts.

- Add the whole numbers: $3 + 2 = 5$
- Add the fractions: $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$



Write the sum as a mixed number, so the fractional

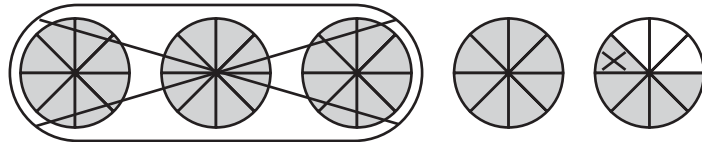
part is less than 1. $3\frac{1}{4} + 2\frac{1}{4} = 5\frac{2}{4}$



Find the difference. $4\frac{5}{8} - 3\frac{1}{8}$

Subtract the fraction and the whole number parts.

- Subtract the fractions: $\frac{5}{8} - \frac{1}{8} = \frac{4}{8}$
- Subtract the whole numbers:
 $4 - 3 = 1$



$$4\frac{5}{8} - 3\frac{1}{8} = 1\frac{4}{8}$$

Find the sum or difference.

$$\begin{array}{r} 1. \quad 3\frac{4}{5} \\ + 4\frac{3}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 7\frac{2}{3} \\ - 3\frac{1}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 4\frac{7}{12} \\ + 6\frac{5}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 12\frac{3}{4} \\ - 6\frac{1}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 2\frac{3}{8} \\ + 8\frac{1}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 11\frac{9}{10} \\ - 3\frac{7}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 7\frac{3}{5} \\ + 4\frac{3}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 8\frac{3}{6} \\ - 3\frac{1}{6} \\ \hline \end{array}$$

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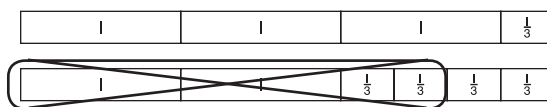
Subtraction with Renaming

Fraction strips can help you subtract mixed numbers or subtract a mixed number from a whole number.

Find the difference. $3\frac{1}{3} - 2\frac{2}{3}$

Step 1 Model the number you are subtracting from, $3\frac{1}{3}$.

Step 2 Because you cannot subtract $\frac{2}{3}$ from $\frac{1}{3}$ without renaming, change one of the 1 strips to three $\frac{1}{3}$ strips. Then subtract by crossing out two wholes and two $\frac{1}{3}$ strips.

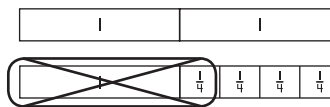


So, $3\frac{1}{3} - 2\frac{2}{3} = \frac{2}{3}$.

Find the difference. $2 - 1\frac{1}{4}$

Step 1 Model the number you are subtracting from, 2.

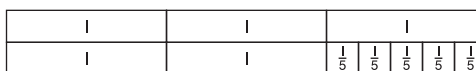
Step 2 Because you cannot subtract $\frac{1}{4}$ from 1 without renaming, change one of the 1 strips to four $\frac{1}{4}$ strips. Then subtract by crossing out one whole and one $\frac{1}{4}$ strip.



So, $2 - 1\frac{1}{4} = \frac{3}{4}$.

Find the difference.

1. $3 - 2\frac{2}{5} =$ _____



2. $2\frac{1}{4} - 1\frac{3}{4} =$ _____



3.
$$\begin{array}{r} 3\frac{3}{5} \\ - 2\frac{4}{5} \\ \hline \end{array}$$

4.
$$\begin{array}{r} 3\frac{1}{12} \\ - 2\frac{11}{12} \\ \hline \end{array}$$

5.
$$\begin{array}{r} 4\frac{5}{8} \\ - 2\frac{7}{8} \\ \hline \end{array}$$