

Add Mixed Numbers

Fred and Gregg are going to put up a tent. They need two pieces of rope to secure the tent. One piece has to be $3\frac{1}{4}$ feet long and the other $2\frac{1}{2}$ feet long. How much rope do they need?

To find the answer, you must add $3\frac{1}{4} + 2\frac{1}{2}$.

You can add mixed numbers by following these steps.

Step 1

Add the whole numbers. $3 + 2 = 5$

Step 2

Find the LCD. Write equivalent fractions. Add the fractions.

multiples of 4: $\textcircled{4}$, 8, 12

$$\frac{1}{4} + \frac{1}{2} =$$

multiples of 2: 2, $\textcircled{4}$, 6

$$\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$$

$$\frac{1 \times 1}{4 \times 1} = \frac{1}{4} \quad \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$$

Step 3

Add the sum of the whole numbers to the sum of the fractions. Write the answer in simplest form if needed.

$$5 + \frac{3}{4} = 5\frac{3}{4}$$

$$\text{So, } 3\frac{1}{4} + 2\frac{1}{2} = 5\frac{3}{4}.$$

Find the sum in simplest form.

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

$$\begin{array}{r} 2. \quad 6\frac{1}{3} \\ + 2\frac{1}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 4\frac{1}{4} \\ + 2\frac{1}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 5\frac{3}{7} \\ + 1\frac{3}{7} \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 7\frac{1}{2} \\ + 2\frac{1}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 4\frac{3}{5} \\ + 2\frac{1}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 4\frac{1}{2} \\ + 3\frac{3}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 3\frac{3}{4} \\ + 2\frac{1}{8} \\ \hline \end{array}$$

Name _____

Subtract Mixed Numbers

Sonia cut out a pattern for a new skirt from $3\frac{1}{2}$ yards of fabric. The pattern used $2\frac{1}{3}$ yards. How much material was left?

You can answer the question by subtracting, $3\frac{1}{2} - 2\frac{1}{3}$.

To subtract mixed numbers, follow these steps.

Step 1

Find the LCD of the fractions by listing the multiples of each number.

Multiples of 2: 2, 4, 6, 8, 10

Multiples of 3: 3, 6, 9, 12, 15

Since 6 is the first common multiple, it is the least common multiple.

Step 3

Subtract the fractions.

$$\begin{array}{r} 3\frac{1}{2} = 3\frac{3}{6} \\ -2\frac{1}{3} = -2\frac{2}{6} \\ \hline 1\frac{1}{6} \end{array}$$

Step 2

Change the fractions into like fractions with 6 as the denominator.

$$\frac{1}{2} \times \frac{3}{3} = \frac{3}{6} \quad \frac{1}{3} \times \frac{2}{2} = \frac{2}{6}$$

Step 4

Subtract the whole numbers.

$$\begin{array}{r} 3\frac{1}{2} = 3\frac{3}{6} \\ -2\frac{1}{3} = -2\frac{2}{6} \\ \hline 1\frac{1}{6} \end{array}$$

So, Sonia has $1\frac{1}{6}$ yards left.

Find the difference in simplest form.

$$\begin{array}{r} 1. \quad 4\frac{4}{5} = 4\frac{8}{10} \\ -1\frac{1}{10} = -1\frac{1}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 6\frac{2}{3} = 6\frac{4}{6} \\ -4\frac{1}{6} = -4\frac{1}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 7\frac{3}{4} = 7\frac{9}{12} \\ -4\frac{5}{12} = -4\frac{5}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 8\frac{1}{3} = 8\frac{4}{12} \\ -1\frac{1}{4} = -1\frac{3}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 2\frac{7}{8} = 2\frac{7}{8} \\ -1\frac{1}{2} = -1\frac{4}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 6\frac{7}{9} = 6\frac{7}{9} \\ -4\frac{2}{3} = -4\frac{6}{9} \\ \hline \end{array}$$

Subtract Mixed Numbers

Find the difference in simplest form. Estimate to check.

$$\begin{array}{r} 1. \quad 3\frac{7}{10} \\ - 1\frac{2}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 5\frac{3}{4} \\ - 2\frac{1}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 8\frac{5}{6} \\ - 2\frac{1}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 7\frac{1}{2} \\ - 4\frac{1}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 9\frac{9}{10} \\ - 4\frac{3}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 5\frac{4}{9} \\ - 3\frac{1}{3} \\ \hline \end{array}$$

Algebra Find the value of n .

$$7. \quad 4\frac{7}{8} - 2\frac{3}{4} = n \quad \underline{\hspace{2cm}}$$

$$9. \quad n - 2\frac{1}{4} = 1\frac{1}{6} \quad \underline{\hspace{2cm}}$$

$$11. \quad 9\frac{5}{6} - n = 5\frac{1}{6} \quad \underline{\hspace{2cm}}$$

$$13. \quad 6\frac{3}{4} - 4\frac{n}{4} = 2\frac{1}{2} \quad \underline{\hspace{2cm}}$$

$$8. \quad 5\frac{4}{5} - 3\frac{n}{5} = 2\frac{1}{5} \quad \underline{\hspace{2cm}}$$

$$10. \quad 5\frac{7}{12} - 3\frac{6}{n} = 2\frac{1}{12} \quad \underline{\hspace{2cm}}$$

$$12. \quad 7\frac{3}{8} - n = 5\frac{1}{8} \quad \underline{\hspace{2cm}}$$

$$14. \quad 3\frac{6}{8} - 2\frac{5}{n} = 1\frac{1}{8} \quad \underline{\hspace{2cm}}$$

Mixed Review

15. The table shows how much wood Sam used for projects. He forgot to enter some of the numbers. Complete the table.

16. Each week Sam works $3\frac{1}{2}$ hours on Wednesday and $4\frac{1}{4}$ hours on Friday. How many hours does he work each week?
- _____

WOOD FOR PROJECTS			
Type of Wood	Feet Started With	Feet Used	Feet Left
Oak	$15\frac{1}{2}$	$9\frac{1}{4}$	_____
Pine	$22\frac{5}{8}$	_____	$10\frac{1}{4}$
Maple	_____	$12\frac{3}{4}$	$2\frac{1}{6}$
Cherry	$20\frac{3}{4}$	$5\frac{3}{8}$	_____