Add and Subtract Mixed Numbers

Name: _____

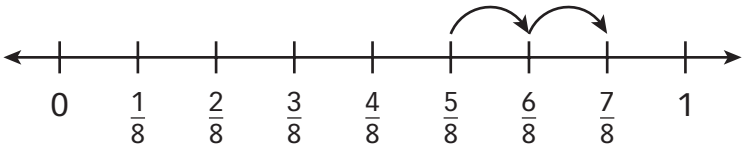
Prerequisite: Add and Subtract Fractions

Study the example problem showing a way to add fractions. Then solve problems 1–5.

Example

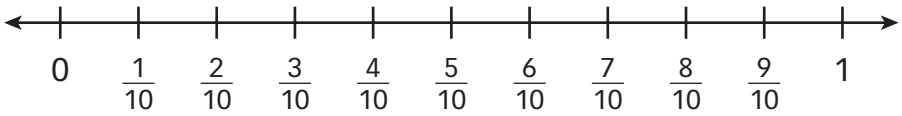
Darcy used $\frac{5}{8}$ of a carton of strawberries to make a cake. She used another $\frac{2}{8}$ of a carton of strawberries to decorate the cake. What fraction of a carton of strawberries did Darcy use in all?

$\frac{5}{8} + \frac{2}{8} = \frac{7}{8}$



Darcy used $\frac{7}{8}$ of a carton of strawberries.

Jeremy biked $\frac{3}{10}$ of a mile to a friend's house. Then he biked $\frac{5}{10}$ of a mile to school.



1 Draw jumps on the number line to show $\frac{3}{10} + \frac{5}{10}$.

2 Fill in the boxes to write an equation that shows how far Jeremy biked.

$\frac{\square}{10} + \frac{\square}{10} = \frac{\square}{10}$

Solve.

3 George used $\frac{4}{6}$ of a box of raisins to make granola. His sister used $\frac{1}{6}$ of the box of raisins for her cereal. How much more of the box of raisins did George use than his sister?

Show your work.

Solution: George used _____ more of the box of raisins.

4 Sam and his friends shared a pizza. They ate $\frac{5}{8}$ of the pizza. What fraction of the pizza is left?

Show your work.

Solution: _____

5 Sophie read $\frac{1}{5}$ of a book each day from Monday to Friday. What fraction of her book had she read after she finished reading on Tuesday?

Show your work.

Solution: _____

6 Use the numbers below to write true equations. There is more than one correct answer and each number can be used more than once.

2	4	6	8	10

$\frac{4}{10} + \frac{\square}{10} = \frac{\square}{\square}$ $\qquad$ $\frac{\square}{\square} + \frac{\square}{\square} = \frac{10}{10}$

$\frac{8}{8} - \frac{\square}{8} = \frac{\square}{\square}$ $\qquad$ $\frac{\square}{\square} - \frac{\square}{\square} = \frac{2}{8}$

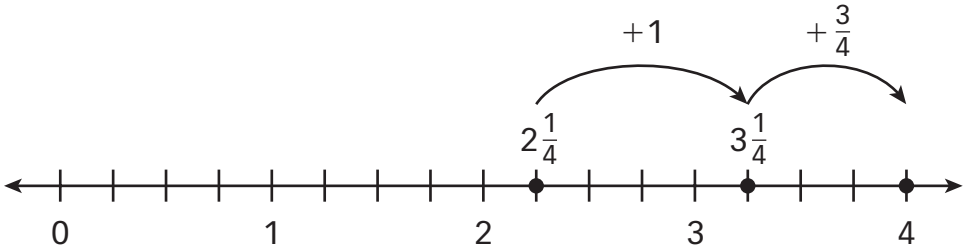
Name: _____

Add Mixed Numbers

Study the example problem showing a way to add mixed numbers. Then solve problems 1–6.

Example

Aaron used $2\frac{1}{4}$ cups of flour to make muffins and another $1\frac{3}{4}$ cups of flour to make pancakes. How many cups of flour did he use altogether?



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

Add the whole numbers. $2 + 1 = \mathbf{3}$

Add the fractions. $\frac{1}{4} + \frac{3}{4} = \mathbf{1}$

Add both sums. $3 + 1 = \mathbf{4}$

Aaron used 4 cups of flour.

1 Marissa used $3\frac{1}{3}$ cups of oats to make oatmeal and $2\frac{1}{3}$ cups of oats to make snack bars. How many cups of oats did Marissa use in all?

a. Add the whole numbers. _____

b. Add the fractions. _____

c. Add both sums. _____

Marissa used _____ cups of oats.

2 Draw and label a number line to show $1\frac{1}{4} + 2\frac{2}{4}$.

Vocabulary

mixed number a number with a whole number part and a fractional part.

$2\frac{1}{4}$ and $1\frac{3}{4}$ are mixed numbers.

Solve.

3 Which of the following is equal to $7\frac{5}{6} + 2\frac{3}{6}$?

Circle all that apply.

A $9\frac{8}{12}$

B $9 + 1\frac{2}{6}$

C $7 + 2 + \frac{5}{6} + \frac{3}{6}$

D $5\frac{2}{6}$

4 Tell whether each number sentence is *True* or *False*.

a. $10\frac{2}{5} + 5\frac{1}{5} = 15\frac{3}{10}$ ☐ True ☐ False

b. $5\frac{3}{8} + 3\frac{5}{8} = 9$ ☐ True ☐ False

c. $8\frac{3}{4} + 1\frac{2}{4} = 9\frac{1}{4}$ ☐ True ☐ False

d. $3\frac{2}{3} + 2\frac{1}{3} + 1 = 7$ ☐ True ☐ False

5 Tim used $4\frac{1}{2}$ cups of oranges, $3\frac{1}{2}$ cups of apples, and $5\frac{1}{2}$ cups of pears in a fruit salad. How many cups of fruit did Tim use altogether?

Show your work.

Solution: _____

6 Jerry and two friends took a trip together. Jerry drove 80 $\frac{7}{10}$ miles. Arthur drove 60 $\frac{5}{10}$ miles. Charlie drove 40 $\frac{8}{10}$ miles. How many miles did they drive in all?

Show your work.

Solution: _____

Name: _____

Subtract Mixed Numbers

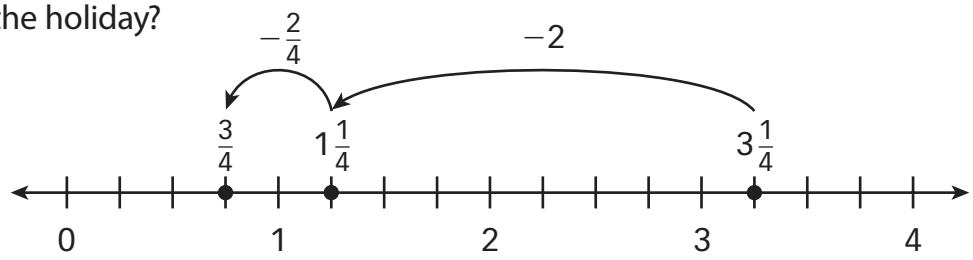
Study the example problem showing a way to subtract mixed numbers. Then solve problems 1–5.

Example

On a holiday, Sara's family drove $3\frac{1}{4}$ hours to her cousin's house. The drive usually takes $2\frac{2}{4}$ hours. How much longer did the drive take on the holiday?

Find $3\frac{1}{4} - 2\frac{2}{4}$.

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



The drive took $\frac{3}{4}$ hour longer on the holiday.

Steve made $9\frac{3}{6}$ cups of pancake batter on a weekend camping trip. He used $3\frac{4}{6}$ cups of batter for breakfast on Saturday.

1 Write each mixed number as a fraction greater than one.

$9\frac{3}{6} = \frac{\square}{6} + \frac{3}{6} = \frac{\square}{6}$ $\quad$ $3\frac{4}{6} = \frac{\square}{6} + \frac{4}{6} = \frac{\square}{6}$

2 Subtract the fractions to find how many cups of batter were left for breakfast on Sunday.

$\frac{\square}{6} - \frac{\square}{6} = \frac{\square}{6}$

3 Write the difference as a mixed number.

$\frac{\square}{6} = \square\frac{\square}{\square}$

4 Use addition to check the answer.

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

Solve.

5 Which of the following has the same value as $7\frac{5}{6} - 2\frac{3}{6}$?

Circle all that apply.

A $10\frac{2}{6}$

B $\frac{47}{6} - \frac{15}{6}$

C $(7 - 2) + \left(\frac{5}{6} - \frac{3}{6}\right)$

D $5\frac{2}{6}$

6 Helen bought 5 pounds of oranges. She sliced $2\frac{3}{10}$ pounds of oranges to bring to a party. How many pounds of oranges does Helen have left?

Show your work.

Solution: _____

7 Kira reasoned that $6\frac{1}{4} - 2\frac{3}{4} = 4\frac{2}{4}$ because the difference between 6 and 2 is 4 and the difference between $\frac{1}{4}$ and $\frac{3}{4}$ is $\frac{2}{4}$. Is Kira's reasoning correct? Explain why or why not.

Name: _____

Add and Subtract Mixed Numbers

Solve the problems.

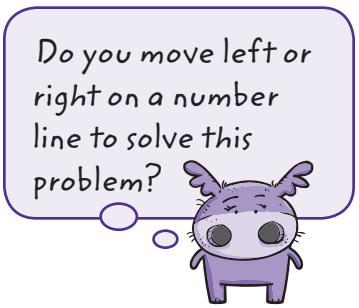
1 Alexandra ran $2\frac{4}{5}$ miles last weekend. This weekend she ran $3\frac{1}{5}$ miles. How many miles did she run in all?

A $1\frac{3}{5}$ miles

B $5\frac{5}{10}$ miles

C $5\frac{3}{5}$ miles

D 6 miles



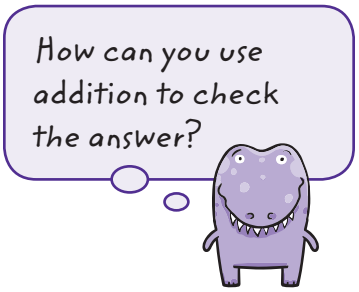
2 Madelyn bought $12\frac{5}{8}$ yards of fabric. She used $6\frac{7}{8}$ yards of the fabric for a costume. How much fabric did Madelyn have left?

A $5\frac{2}{8}$ yards

B $5\frac{6}{8}$ yards

C $6\frac{2}{8}$ yards

D $19\frac{4}{8}$ yards



Cory chose **C** as the correct answer. How did he get that answer?

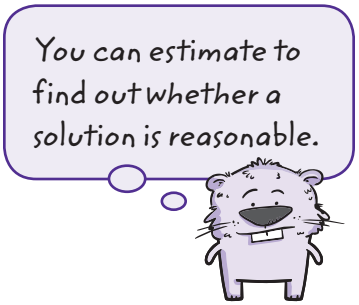
_____

_____

3 Look at Mina's work below.

$$10\frac{7}{12} - \frac{9}{12} = \left(\frac{10}{12} + \frac{7}{12}\right) - \frac{9}{12}$$
$$= \frac{17}{12} - \frac{9}{12}$$
$$= \frac{8}{12}$$

Is Mina's solution reasonable? Explain.



_____

_____

_____

Solve.

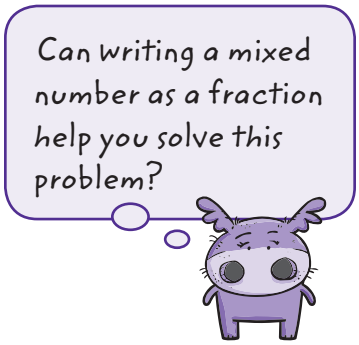
4 Which statement(s) below have the same value as $4\frac{3}{5} - 2\frac{1}{5}$? Circle all that apply.

A $(4 - 2) + \left(\frac{3}{5} - \frac{1}{5}\right)$

B $(4 - 2) - \left(\frac{3}{5} - \frac{1}{5}\right)$

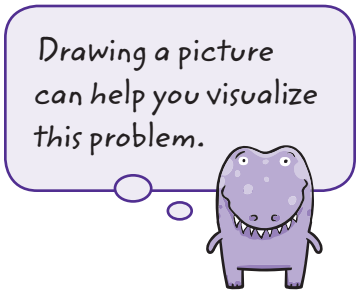
C $\left(\frac{20}{5} + \frac{3}{5}\right) - \left(\frac{10}{5} + \frac{1}{5}\right)$

D $\frac{7}{5} - \frac{3}{5}$



5 Jackson ordered 4 submarine sandwiches for a lunch party. Each sandwich was cut into thirds. At the party, 8 people each ate $\frac{1}{3}$ of a sandwich. How much of the sandwiches were left?

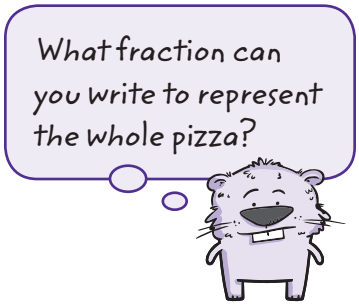
Show your work.



Solution: _____

6 Julie, Ellen, and Jenny shared a pizza. Julie ate $\frac{1}{8}$ of the pizza. Ellen and Jenny each ate $\frac{3}{8}$ of the pizza. Did the girls eat the whole pizza? Explain.

Show your work.



Solution: _____