Add and Subtract Fractions

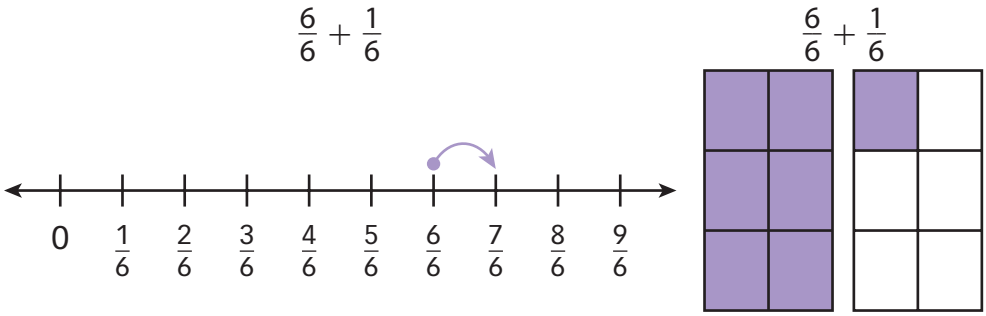
Name: _____

Prerequisite: Model Fraction Addition and Subtraction

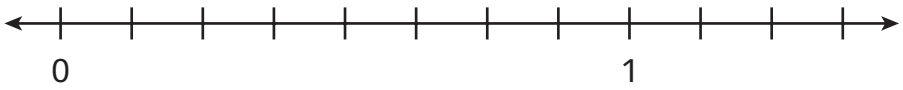
Study the example problem showing fraction addition with number line and area models. Then solve problems 1–8.

Example

Adding fractions means joining or putting together parts of a whole. On the number line, each whole is divided into 6 equal sections. Each rectangle is divided into 6 equal pieces.

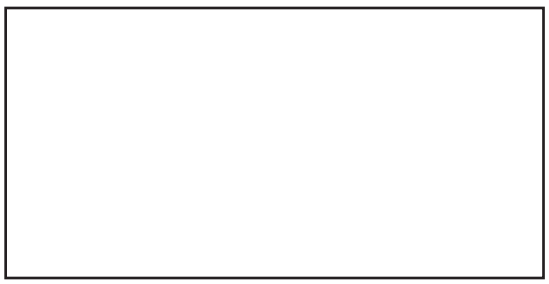


1 Label the number line to show eighths.



2 Use the number line in problem 1 to show $\frac{3}{8} + \frac{2}{8}$.

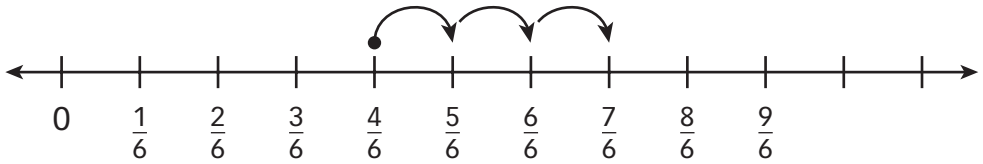
3 Divide the rectangle to show eighths.



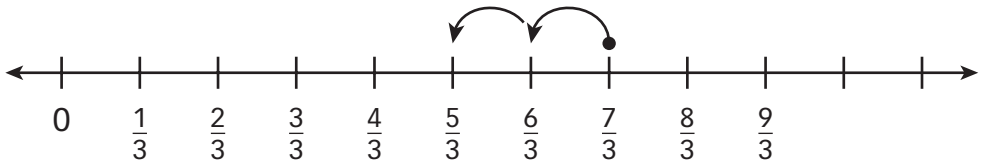
4 Use the rectangle in problem 3 to show $\frac{3}{8} + \frac{2}{8}$.

Solve.

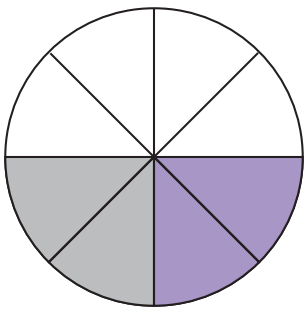
5 What is the fraction addition problem shown on this number line? _____



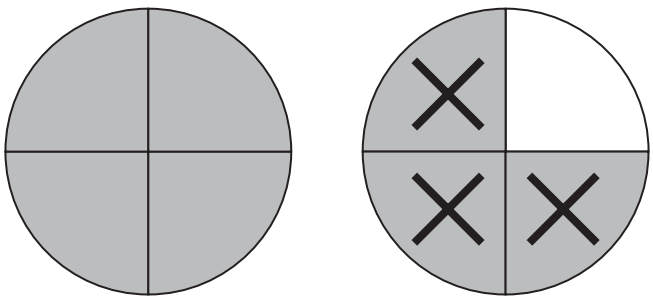
6 What is the fraction subtraction problem shown on this number line? _____



7 What is the fraction addition problem shown by this area model? _____



8 What is the fraction subtraction problem shown by this area model? _____



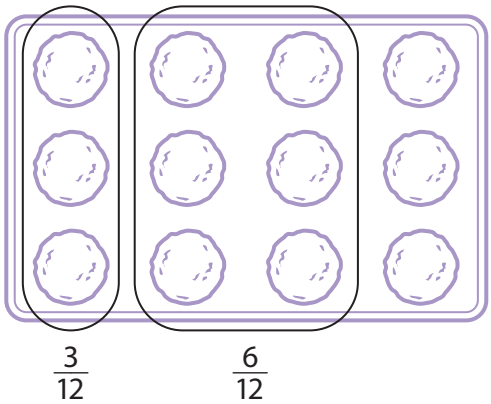
Name: _____

Add Fractions

Study the example problem showing one way to add fractions. Then solve problems 1–13.

Example

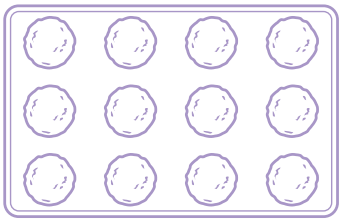
Shrina has a muffin tray that holds 12 muffins. She fills $\frac{3}{12}$ of the tray with apple muffin batter. Then she fills $\frac{6}{12}$ with pumpkin muffin batter. What fraction of the tray is filled?



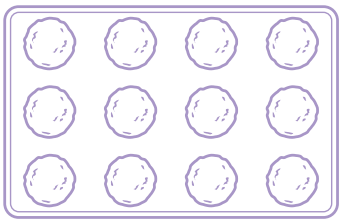
$\frac{3}{12} + \frac{6}{12} = \frac{9}{12}$

So, $\frac{9}{12}$ of the muffin tray is filled.

1 Shade $\frac{2}{12}$ of the muffin tray.



2 Sam fills $\frac{2}{12}$ of the tray with banana muffin batter. Then she fills $\frac{6}{12}$ with lemon muffin batter. Shade the diagram to show this.



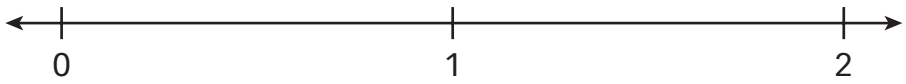
3 In problem 2, what fraction of the tray is filled? _____

Write an equation for this problem that includes your answer. _____

Solve.

Kay ran $\frac{6}{8}$ mile and rested. Then she ran another $\frac{6}{8}$ mile.

4 Divide the number line below to show eighths.



5 Label $\frac{6}{8}$ on the number line above.

6 Use arrows to show $\frac{6}{8} + \frac{6}{8}$ on the number line.

7 What is the total distance Kay ran? _____

8 Write an equation for this problem that includes your answer. _____

Jin cleaned $\frac{1}{10}$ of the patio before lunch and cleaned $\frac{9}{10}$ of the patio after lunch.

9 Divide the rectangle to show tenths.

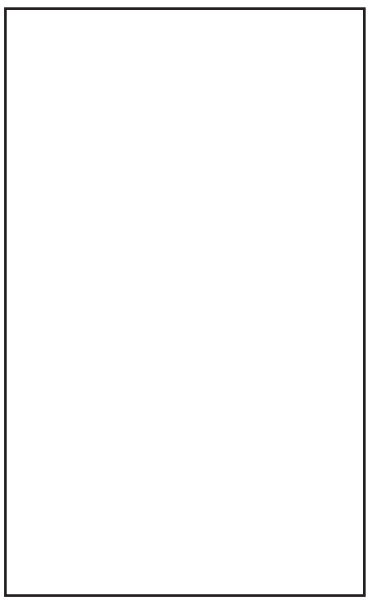
10 Shade the rectangle to show the fraction Jin cleaned before lunch.

11 Use a different color to shade the rectangle to show the fraction Jin cleaned after lunch.

12 What fraction of the patio did Jin clean altogether?

_____

13 Write an equation for this problem that includes your answer. _____



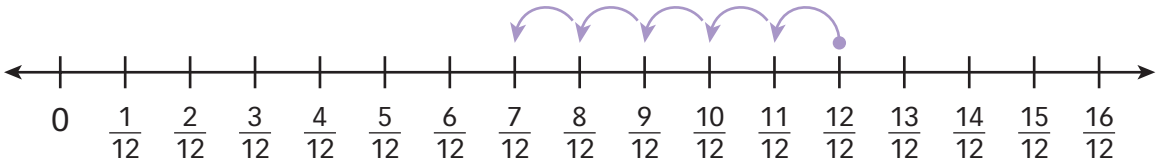
Name: _____

Subtract Fractions

Study the example showing one way to subtract fractions. Then solve problems 1–7.

Example

Ali bought a carton of eggs. He used $\frac{3}{12}$ of the eggs to cook breakfast. He used another $\frac{2}{12}$ to make a dessert for dinner. What fraction of the carton is left?



$\frac{12}{12} - \frac{3}{12} = \frac{9}{12}$

$\frac{9}{12} - \frac{2}{12} = \frac{7}{12}$ So, $\frac{7}{12}$ of the carton is left.

Keisha is going to her friend's house $\frac{8}{10}$ mile from home. Her mother drives her partway, then she walks the last $\frac{3}{10}$ mile.

1 Divide the number line below to show tenths. Then label each tick mark.

2 Use arrows to show the problem on the number line you drew in problem 1.

3 How far did Keisha's mother drive her? _____

4 Write an equation for this problem that includes your answer. _____

Solve.

5 Anna made a quilt by sewing together green, white, and yellow fabric. When she was done, $\frac{2}{6}$ of the quilt was green and $\frac{3}{6}$ was yellow. The rest was white. What fraction of the quilt was white?

Show your work.

Solution: _____

6 What is $\frac{9}{8} - \frac{8}{8}$?

Use a number line or an area model to show your thinking.

Solution: _____

7 Shanice had 1 whole pizza. After eating some of it, she had $\frac{4}{6}$ of the pizza left. What fraction of the pizza did she eat?

Show your work.

Solution: _____

Name: _____

Add and Subtract Fractions

Solve the problems.

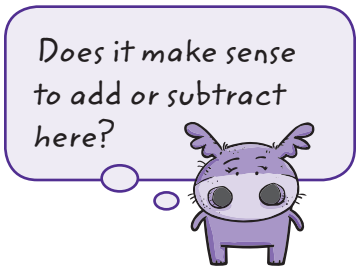
1 Lin bought $\frac{3}{4}$ pound of cheddar cheese and some Swiss cheese. Altogether she bought $\frac{7}{4}$ pounds of cheese. How much Swiss cheese did Lin buy?

A $\frac{4}{8}$ of a pound

B $\frac{4}{4}$ of a pound

C $\frac{10}{8}$ pounds

D $\frac{10}{4}$ pounds



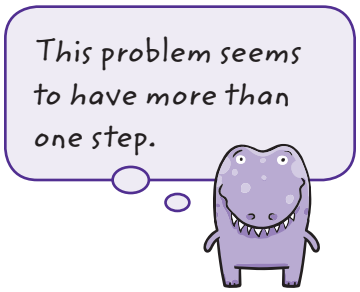
2 Carrie has 2 meters of ribbon. She cuts off pieces of ribbon that are $\frac{5}{10}$ meter, $\frac{1}{10}$ meter, and $\frac{7}{10}$ meter. How long is the remaining piece of ribbon?

A $\frac{1}{10}$ meter

B $\frac{3}{10}$ meter

C $\frac{7}{10}$ meter

D $\frac{13}{10}$ meters



Lee chose **D** as the correct answer. How did she get that answer?

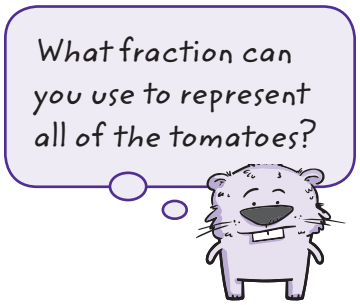
_____

_____

_____

3 Ms. Atkins had a basket of tomatoes. She used $\frac{5}{12}$ of the tomatoes to make soup. She used $\frac{2}{12}$ in a salad. What fraction of the tomatoes are left?

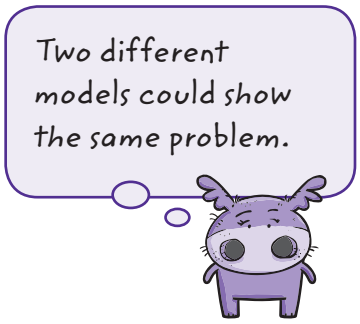
Show your work.



Solution: _____

Solve.

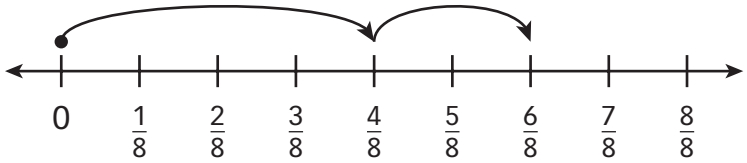
4 Jo and Kira are raking leaves in the yard. They divide the yard into 8 equal sections. Jo rakes 4 sections. Kira rakes 2 sections. Which model can be used to find the total fraction of the yard they rake? Circle the letter of all that apply.



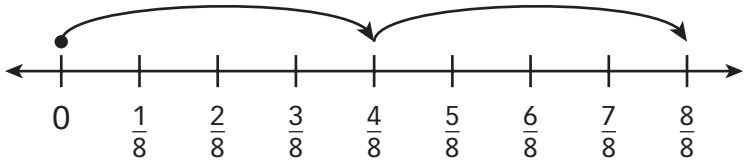
A

B

C

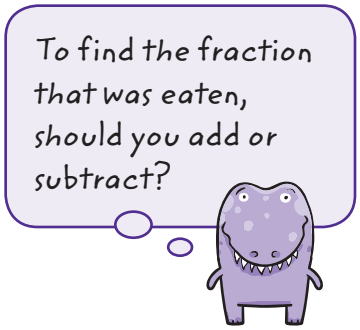


D



5 A pizza is cut into 6 equal pieces. After Eli and Dan eat some, $\frac{1}{6}$ of the pizza is left. What fraction could each boy eat? Give one possible answer.

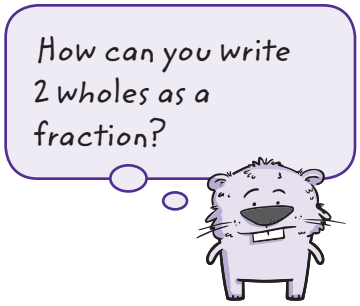
Show your work.



Solution: _____

6 Milo has 2 hours of free time. He spends $\frac{2}{4}$ of an hour with his dog. He spends $\frac{3}{4}$ of an hour drawing. What fraction of an hour does he have left?

Show your work.



Solution: _____