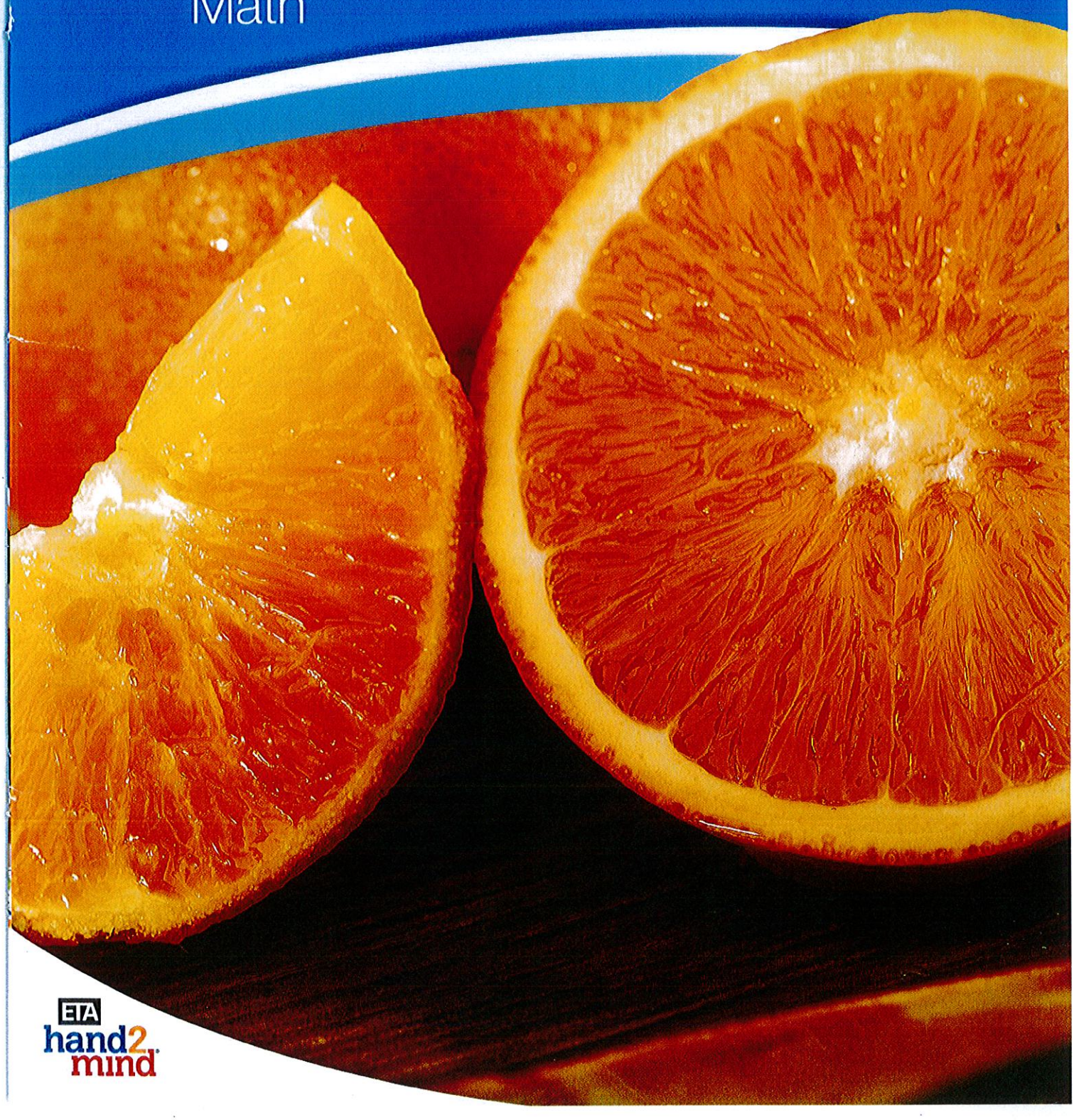
Versa Tiles

Math

Fractions

Operations



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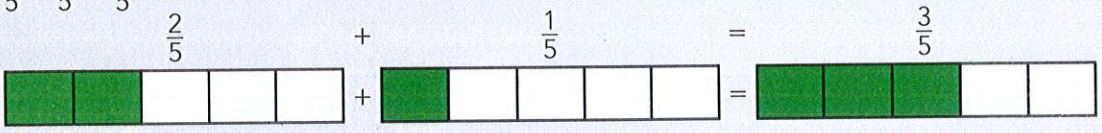
16 17 18 19 20 21 22 9 8 7 6 5 4 3 2 1

Adding Likeness

Example

Find the missing numerator.

$\frac{2}{5} + \frac{1}{5} = \frac{\square}{5}$



The missing numerator is **3**.

Find the missing numerator.

1 $\frac{6}{8} + \frac{1}{8} = \frac{\square}{8}$

2 $\frac{3}{5} + \frac{3}{5} = \frac{\square}{5}$

3 $\frac{2}{10} + \frac{8}{10} = \frac{\square}{10}$

4 $\frac{2}{100} + \frac{10}{100} = \frac{\square}{100}$

5 $\frac{8}{12} + \frac{1}{12} = \frac{\square}{12}$

6 $\frac{3}{8} + \frac{2}{8} = \frac{\square}{8}$

7 $\frac{10}{12} + \frac{1}{12} = \frac{\square}{12}$

8 $\frac{5}{10} + \frac{3}{10} = \frac{\square}{10}$

9 $\frac{1}{4} + \frac{1}{4} = \frac{\square}{4}$

10 $\frac{1}{8} + \frac{3}{8} = \frac{\square}{8}$

11 $\frac{1}{6} + \frac{0}{6} = \frac{\square}{6}$

12 $\frac{1}{10} + \frac{2}{10} = \frac{\square}{10}$

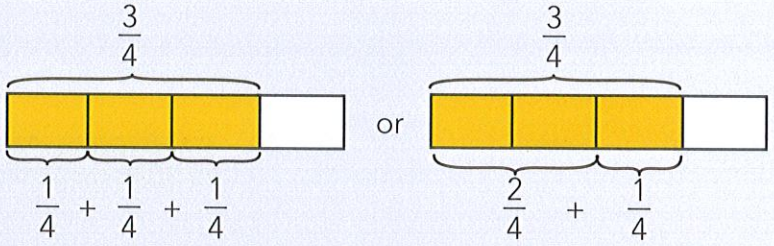
A	B	C	D	E	F
3	8	9	1	11	4
6	5	2	10	7	12
G	H	I	J	K	L

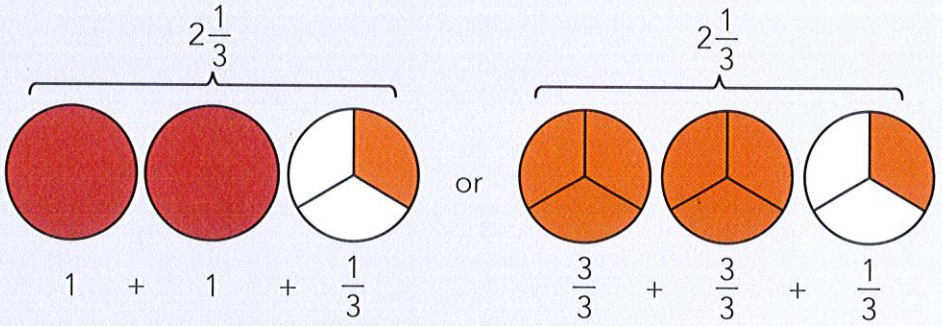
Objective: Find the missing numerator in fraction addition sentences.

Different Ways to Get the Same Result

Example

Find the addition sentence for the model.

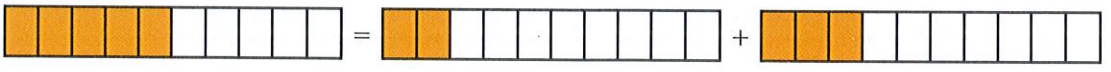


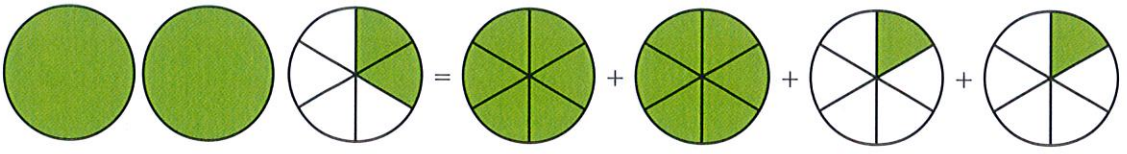


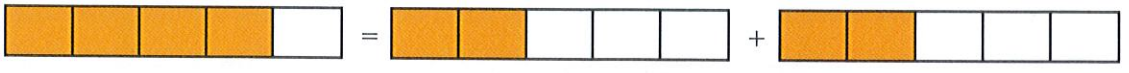
Find the addition sentence for the model.

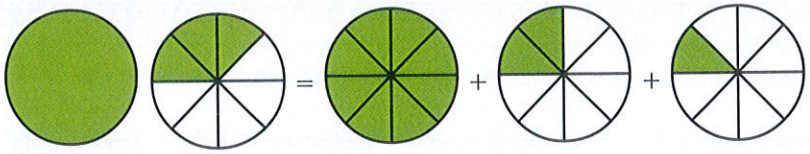
1

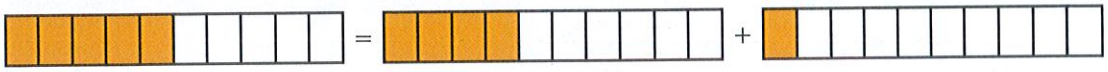
2

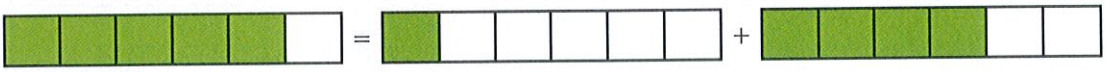
3 

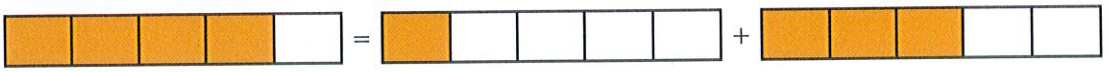
4 

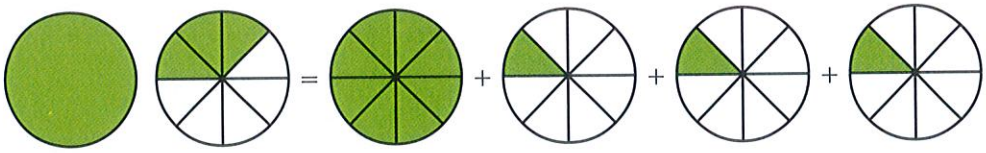
5 

6 

7 

8 

9 

10 

11

12

A	B	C	D	E	F
$\frac{4}{5} = \frac{2}{5} + \frac{2}{5}$	$\frac{4}{5} = \frac{1}{5} + \frac{3}{5}$	$\frac{6}{8} = \frac{4}{8} + \frac{2}{8}$	$\frac{5}{6} = \frac{1}{6} + \frac{4}{6}$	$2\frac{2}{6} = \frac{6}{6} + \frac{6}{6} + \frac{1}{6} + \frac{1}{6}$	$1\frac{3}{8} = \frac{8}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$
$\frac{5}{10} = \frac{2}{10} + \frac{3}{10}$	$\frac{9}{12} = \frac{6}{12} + \frac{3}{12}$	$\frac{6}{8} = \frac{3}{8} + \frac{3}{8}$	$1\frac{3}{8} = \frac{8}{8} + \frac{2}{8} + \frac{1}{8}$	$\frac{5}{10} = \frac{4}{10} + \frac{1}{10}$	$\frac{5}{6} = \frac{3}{6} + \frac{2}{6}$
G	H	I	J	K	L

Objective: Decompose fractions and mixed numbers using models.

Problem Solving: Using Fractions

Solve the problem.

1 Two-eighths of a garden is planted in beans and $\frac{1}{8}$ in carrots. How much is left for other vegetables?

2 One-twelfth of a garden is planted in corn, $\frac{4}{12}$ in peas, and $\frac{2}{12}$ in lettuce. How much is left for other vegetables?

3 Two-twelfths of the volunteers signed up to give tours. $\frac{7}{12}$ of the volunteers signed up to weed the garden. How many volunteers signed up for another task?

4 Sarah spends $\frac{4}{8}$ of the time weeding and $\frac{1}{8}$ of the time thinning seedlings. What portion of her time is left for other chores?

5 One day, $\frac{2}{8}$ of the park visitors went on the first garden tour, $\frac{1}{8}$ went on the second tour, and $\frac{4}{8}$ went on the third tour. What fraction of the visitors did not go on a tour?

6 During one month, the garden club recorded that $\frac{3}{10}$ of the days were sunny and the same fraction of the days were cloudy. It rained the other days. Which fraction of the days did it rain?

7 Max cans $\frac{3}{12}$ of the tomato crop on Monday and $\frac{5}{12}$ of it on Friday. How much of the tomato crop did he can?

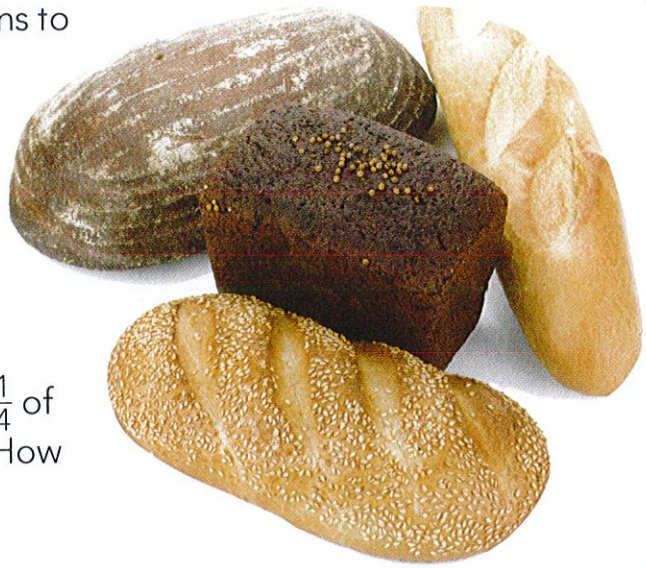
8 The garden is open to the public $\frac{3}{5}$ of the time from Monday through Friday. During $\frac{1}{5}$ of that time, it is open only by appointment. What part of that time is it closed?

9 One caretaker walks $3\frac{1}{4}$ laps around the edge of the garden and another walks $5\frac{3}{4}$ laps. How many laps did the caretakers walk in all?

10 One-fifth of the field is plowed one morning and $\frac{1}{5}$ is plowed that afternoon. How much remains to be plowed?

11 After a tour, $\frac{1}{6}$ of the visitors go to the pick-your-own garden and $\frac{3}{6}$ of them watch a film. Which fraction did neither activity?

12 The Visitor Center has bread for sale. $6\frac{1}{4}$ of the loaves are oatmeal and $5\frac{1}{4}$ are rye. How many loaves are oatmeal or rye?



A	B	C	D	E	F
$\frac{5}{12}$	$\frac{4}{10}$	$\frac{8}{12}$	$\frac{3}{5}$	$\frac{3}{12}$	9
$11\frac{2}{4}$	$\frac{1}{5}$	$\frac{3}{8}$	$\frac{5}{8}$	$\frac{2}{6}$	$\frac{1}{8}$
G	H	I	J	K	L

Objective: Solve a problem that involves adding or subtracting fractions.

Finding the Sum of the Parts

Find the sum.

1 $\frac{9}{12} + \frac{2}{12}$

2 $\frac{3}{8} + \frac{4}{8}$

3 $\frac{3}{12} + \frac{7}{12}$

4 $\frac{8}{10} + \frac{5}{10}$

5 $\frac{1}{12} + \frac{2}{12}$

6 $\frac{4}{5} + \frac{1}{5}$

7 $\frac{2}{10} + \frac{7}{10}$

8 $\frac{1}{4} + \frac{1}{4}$

9 $\frac{1}{3} + \frac{1}{3}$

10 The library raises $\frac{1}{4}$ of its funds from donations and $\frac{2}{4}$ from taxes. How much is that in all?

11 Cara read $\frac{1}{5}$ of her book on Thursday and another $\frac{3}{5}$ on Friday. How much did she read altogether?

12 The librarian put away $\frac{2}{5}$ of the returned books by the afternoon and another $\frac{1}{5}$ by the evening. How much did he put away?

Tip

When fractions have **like denominators**, add the **numerators**. The denominator stays the same.

A	B	C	D	E	F
$\frac{7}{8}$	$\frac{5}{5}$	$\frac{13}{10}$	$\frac{3}{4}$	$\frac{2}{3}$	$\frac{10}{12}$
$\frac{3}{5}$	$\frac{2}{4}$	$\frac{9}{10}$	$\frac{11}{12}$	$\frac{3}{12}$	$\frac{4}{5}$
G	H	I	J	K	L

Objective: Find sums of two fractions with like denominators.

Greater Than One

Example

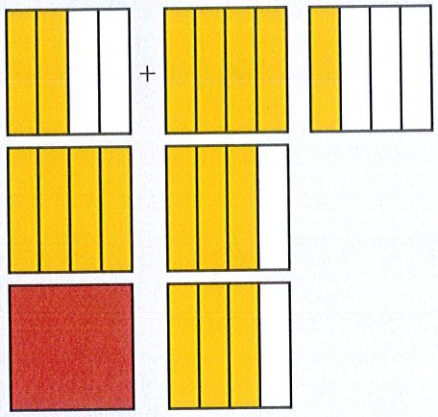
Find the sum.

$\frac{2}{4} + \frac{5}{4}$

$$\begin{array}{r} \frac{2}{4} \\ +\frac{5}{4} \\ \hline \end{array}$$

$\frac{7}{4} = \frac{4}{4} + \frac{3}{4} = 1\frac{3}{4}$

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



Find the sum.

1 $\frac{4}{5} + \frac{6}{5}$

2 $\frac{7}{2} + \frac{1}{2}$

3 $\frac{5}{8} + \frac{6}{8}$

4 $\frac{3}{8} + \frac{6}{8}$

5 $\frac{1}{10} + \frac{12}{10}$

6 $\frac{3}{5} + \frac{3}{5}$

7 $\frac{3}{5} + \frac{4}{5}$

8 $\frac{4}{5} + \frac{4}{5}$

9 $\frac{7}{10} + \frac{8}{10}$

10 $\frac{4}{5} + \frac{8}{5}$

11 $\frac{3}{10} + \frac{8}{10}$

12 $\frac{9}{10} + \frac{8}{10}$

A	B	C	D	E	F
$1\frac{1}{10}$	$1\frac{3}{8}$	$1\frac{3}{5}$	$1\frac{1}{5}$	$2\frac{2}{5}$	$1\frac{1}{8}$
$1\frac{5}{10}$	$1\frac{3}{10}$	4	$1\frac{7}{10}$	2	$1\frac{2}{5}$
G	H	I	J	K	L

Objective: Find sums of two fractions with like denominators, sum greater than 1.

Likeable Fractions

Find the difference.

1 $\frac{3}{8} - \frac{1}{8}$

2 $\frac{15}{10} - \frac{7}{10}$

3 $\frac{9}{10} - \frac{7}{10}$

4 $\frac{11}{12} - \frac{3}{12}$

5 $\frac{5}{4} - \frac{1}{4}$

6 $\frac{7}{10} - \frac{2}{10}$

7 $\frac{4}{5} - \frac{2}{5}$

8 $\frac{7}{8} - \frac{1}{8}$

9 $\frac{11}{12} - \frac{7}{12}$

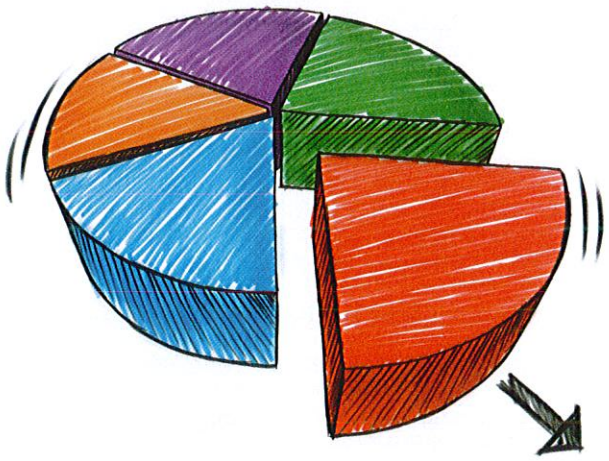
10 $\frac{9}{10} - \frac{3}{10}$

11 $\frac{11}{8} - \frac{6}{8}$

12 $\frac{11}{12} - \frac{1}{12}$

Tip

To subtract fractions that have the same denominator, just subtract the numerators and keep the same denominator.



A	B	C	D	E	F
$\frac{2}{8}$	$\frac{2}{5}$	$\frac{5}{8}$	$\frac{4}{4}$	$\frac{8}{10}$	$\frac{10}{12}$
$\frac{6}{10}$	$\frac{8}{12}$	$\frac{2}{10}$	$\frac{4}{12}$	$\frac{6}{8}$	$\frac{5}{10}$
G	H	I	J	K	L

Objective: Find differences between two fractions with like denominators.

Sums and Differences

Find the sum or difference.

1 $\frac{6}{8} - \frac{4}{8}$

2 $\frac{4}{6} + \frac{4}{6}$

3 $\frac{10}{10} - \frac{2}{10}$

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

5 $\frac{10}{6} - \frac{3}{6}$

6 $\frac{6}{10} + \frac{3}{10}$

7 $\frac{8}{12} + \frac{2}{12}$

8 $\frac{6}{6} - \frac{5}{6}$

9 $\frac{4}{5} - \frac{1}{5}$

10 $\frac{4}{8} + \frac{1}{8}$

11 $\frac{13}{12} + \frac{2}{12}$

12 $\frac{3}{10} - \frac{1}{10}$

Tip

Use addition to check your answers to the subtraction problems.

A	B	C	D	E	F
$\frac{2}{8}$	1	$1\frac{2}{6}$	$\frac{9}{10}$	$\frac{3}{5}$	$\frac{8}{10}$
$\frac{5}{8}$	$\frac{10}{12}$	$\frac{1}{6}$	$\frac{2}{10}$	$1\frac{3}{12}$	$1\frac{1}{6}$
G	H	I	J	K	L

Objective: Find sums or differences of two fractions with like denominators.

More Sums

Find the sum.

1 $\frac{5}{3} + \frac{2}{3}$

2 $\frac{5}{8} + \frac{6}{8}$

3 $\frac{2}{3} + \frac{3}{3}$

4 $\frac{7}{6} + \frac{3}{6}$

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

6 $\frac{8}{12} + \frac{8}{12}$

7 $\frac{4}{6} + \frac{9}{6}$

8 $\frac{3}{4} + \frac{2}{4}$

9 $\frac{4}{3} + \frac{4}{3}$

10 $\frac{6}{12} + \frac{11}{12}$

11 $\frac{5}{12} + \frac{8}{12}$

12 $\frac{7}{6} + \frac{4}{6}$

A	B	C	D	E	F
$1\frac{5}{6}$	$1\frac{3}{8}$	$4\frac{1}{3}$	$2\frac{2}{3}$	$2\frac{1}{6}$	$2\frac{1}{3}$
$1\frac{4}{12}$	$1\frac{1}{4}$	$1\frac{2}{3}$	$1\frac{1}{12}$	$1\frac{4}{6}$	$1\frac{5}{12}$
G	H	I	J	K	L

Objective: Find sums of two fractions with like denominators, sum greater than 1.

Take Them Away!

Example

Find the missing numerator.

$\frac{7}{8} - \frac{2}{8} = \frac{\square}{8}$

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

The missing numerator is **5**.

Find the missing numerator.

1 $\frac{4}{6} - \frac{2}{6} = \frac{\square}{6}$

2 $\frac{9}{10} - \frac{2}{10} = \frac{\square}{10}$

3 $\frac{14}{100} - \frac{2}{100} = \frac{\square}{100}$

4 $\frac{8}{5} - \frac{4}{5} = \frac{\square}{5}$

5 $\frac{7}{12} - \frac{1}{12} = \frac{\square}{12}$

6 $\frac{17}{5} - \frac{7}{5} = \frac{\square}{5}$

7 $\frac{11}{12} - \frac{3}{12} = \frac{\square}{12}$

8 $\frac{4}{8} - \frac{3}{8} = \frac{\square}{8}$

9 $\frac{7}{4} - \frac{7}{4} = \frac{\square}{4}$

10 $\frac{11}{10} - \frac{2}{10} = \frac{\square}{10}$

11 Soup cans come packaged 8 in a box. Carrie took out 1 can. There were 7 cans left this morning. Carrie then took 2 more out. How many eighths were left?

12 Roberto bought 6 mouse pads. He gave 3 to Trish. How many sixths are left?

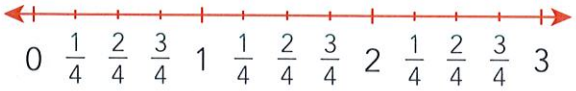
A	B	C	D	E	F
3	1	4	2	5	6
7	10	9	8	12	0
G	H	I	J	K	L

Objective: Find the missing numerator in fraction subtraction sentences.

Mixed Number Addition and Subtraction

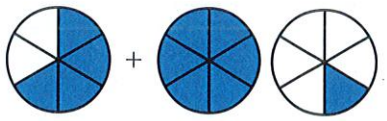
Solve the problem.

1 This morning Nate left his house to go to swim practice. The total time it took him to bike there and back was $\frac{1}{4}$-hour. The swim practice lasted $1\frac{1}{4}$ hours. For how many hours was Nate gone?

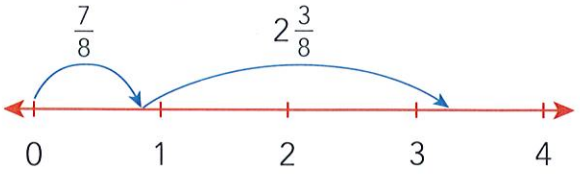


2 Evan spent $1\frac{1}{4}$ hours on his science homework and $2\frac{2}{4}$ hours on his math homework. How many hours did he spend on these two subjects?

3 Dale had a business flight to catch this morning. The flight was delayed for $\frac{4}{6}$-hour due to icy conditions. Then it was delayed for another $1\frac{1}{6}$ hours. How many hours was the flight delayed in all?



4 Natasha spent her morning taking a jog. She jogged $\frac{7}{8}$-mile before stopping for a short break. Then she jogged another $2\frac{3}{8}$ miles. What was the total number of miles Natasha jogged?



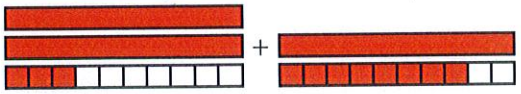
5 Allison went fishing at the park. She caught two fish. One weighed $2\frac{1}{3}$ pounds and the other weighed 4 pounds. Together, how many pounds did the fish weigh?

6 While at the gym this week, Kandace spent $2\frac{1}{6}$ hours biking and $1\frac{2}{6}$ hours running. How many more hours did Kandace spend biking than running?

7 Two boards have lengths $11\frac{3}{8}$ inches and $5\frac{5}{8}$ inches. How many inches longer is the longer board?

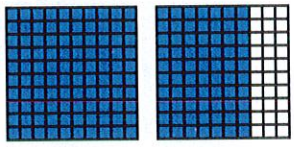
8 Eve bought $2\frac{1}{4}$ pounds of turkey and $\frac{2}{4}$-pound cheese. How many more pounds of turkey than cheese did Eve buy?

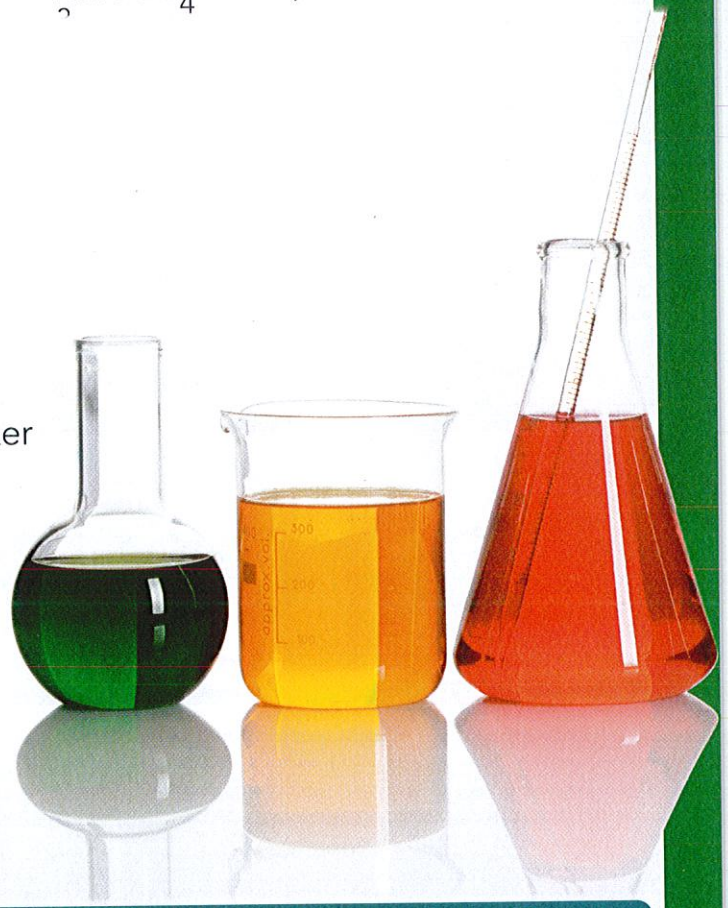
9 Pauline hiked two trails. One trail was $2\frac{3}{10}$ miles, and the other trail was $1\frac{8}{10}$ miles. What was the total number of miles Pauline hiked?



10 Franklin had two parties. One lasted $3\frac{1}{4}$ hours, and the other

11 Fernando and his lab partner worked on their science project. They had a glass with $1\frac{70}{100}$ liters of liquid and a beaker with $\frac{90}{100}$ liters of liquid. How much more liquid was in the glass than the beaker?





12 A comedy movie was $1\frac{3}{4}$ hours in length, and the drama was 2 hours. How many hours longer was the drama?

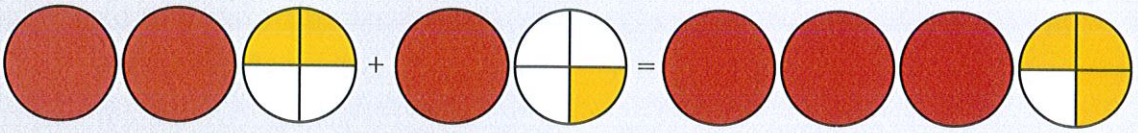
A	B	C	D	E	F
$1\frac{3}{4}$	$\frac{1}{4}$	$6\frac{1}{3}$	$\frac{80}{100}$	$2\frac{2}{4}$	$5\frac{6}{8}$
$\frac{5}{6}$	$3\frac{3}{4}$	$4\frac{1}{10}$	$1\frac{5}{6}$	$3\frac{2}{8}$	$1\frac{2}{4}$
G	H	I	J	K	L

Objective: Solve word problems that involve addition or subtraction of mixed numbers.

Mixed-Up Models

Example

Find the equation shown by the model.

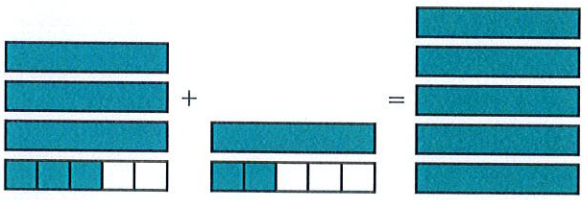


One addend is $2\frac{2}{4}$. The other addend is $1\frac{1}{4}$. The sum is $3\frac{3}{4}$.

So, the equation is $2\frac{2}{4} + 1\frac{1}{4} = 3\frac{3}{4}$.

Find the equation shown by the model.

1



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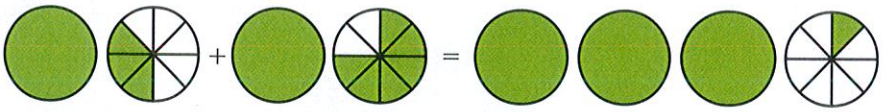

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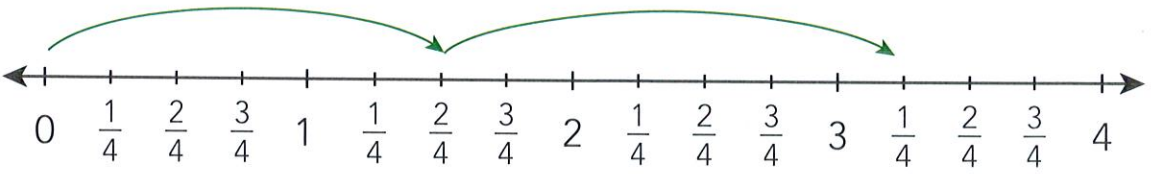

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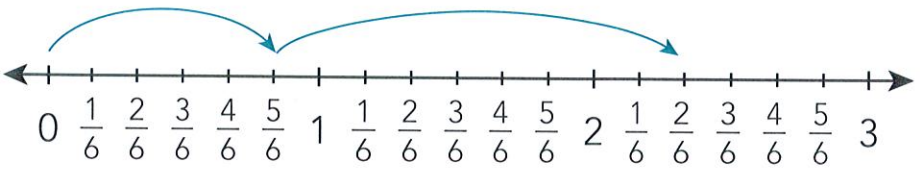

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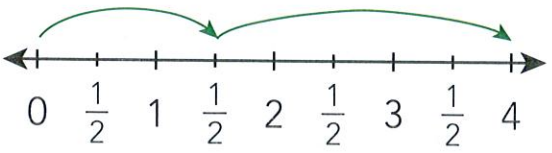

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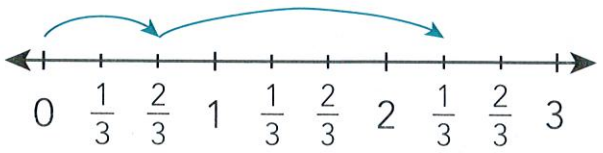

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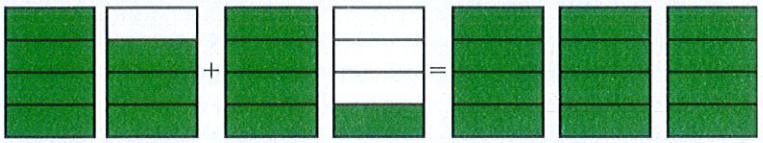

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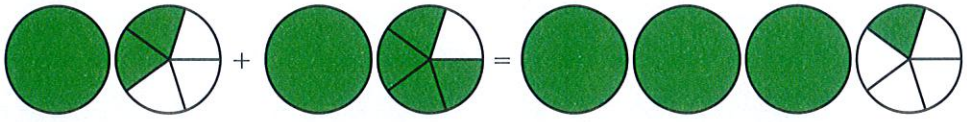

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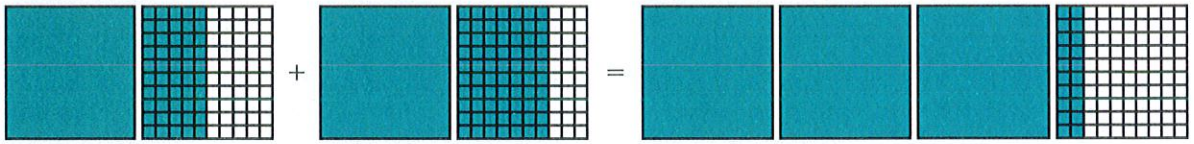

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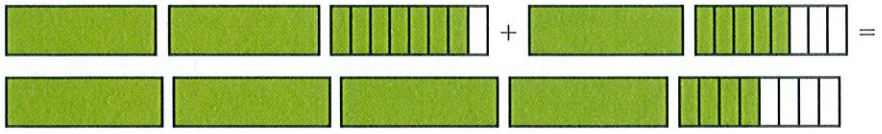


A	B	C	D	E	F
$1\frac{3}{8} + 1\frac{6}{8} = 3\frac{1}{8}$	$2\frac{7}{8} + 1\frac{5}{8} = 4\frac{4}{8}$	$1\frac{2}{5} + 1\frac{4}{5} = 3\frac{1}{5}$	$1\frac{3}{4} + 1\frac{1}{4} = 3$	$1\frac{3}{10} + \frac{7}{10} = 2$	$1\frac{1}{2} + 2\frac{1}{2} = 4$
$2\frac{2}{12} + 1\frac{6}{12} = 3\frac{8}{12}$	$\frac{2}{3} + 1\frac{2}{3} = 2\frac{1}{3}$	$3\frac{3}{5} + 1\frac{2}{5} = 5$	$\frac{5}{6} + 1\frac{3}{6} = 2\frac{2}{6}$	$1\frac{50}{100} + 1\frac{70}{100} = 3\frac{20}{100}$	$1\frac{2}{4} + 1\frac{3}{4} = 3\frac{1}{4}$
G	H	I	J	K	L

Objective: Find equations for mixed number addition problems using models.

Does It Add Up?

Find the sum.

1 $5\frac{2}{3} + 3\frac{1}{3}$

2 $8\frac{3}{5} + 7\frac{4}{5}$

3 $5\frac{2}{10} + 2\frac{8}{10}$

4 $8\frac{4}{5} + 1\frac{3}{5}$

5 $2\frac{3}{8} + 4\frac{1}{8}$

6 $4\frac{3}{6} + 5\frac{2}{6}$

7 $5\frac{9}{10} + 3\frac{2}{10}$

8 $9\frac{3}{6} + 1\frac{1}{6}$

9 $3\frac{3}{4} + 3\frac{1}{4}$

10 $4\frac{1}{4} + 1\frac{3}{4}$

11 $10\frac{1}{2} + 4\frac{1}{2}$

12 $3\frac{7}{10} + 5\frac{6}{10}$

A	B	C	D	E	F
$6\frac{4}{8}$	15	$9\frac{1}{10}$	6	$9\frac{3}{10}$	$10\frac{4}{6}$
8	7	$10\frac{2}{5}$	9	$9\frac{5}{6}$	$16\frac{2}{5}$
G	H	I	J	K	L

Objective: Find sums of two mixed numbers with like denominators.

Less, Greater, Difference

Find the difference.

1 $9\frac{5}{8} - 3\frac{1}{8}$

2 $8\frac{6}{10} - 7\frac{4}{10}$

3 $11\frac{3}{4} - 3\frac{2}{4}$

4 $14\frac{5}{6} - 11\frac{3}{6}$

5 $9\frac{3}{4} - 6\frac{1}{4}$

6 $10\frac{4}{5} - 5\frac{2}{5}$

7 $14\frac{3}{5} - 1\frac{1}{5}$

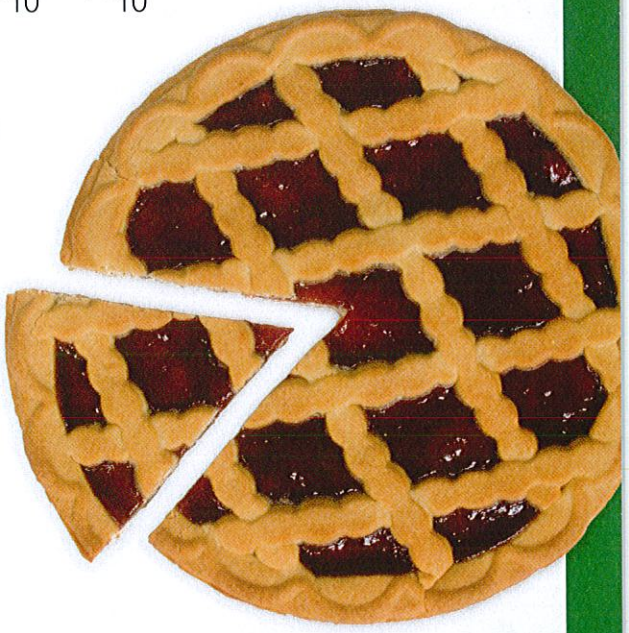
8 $25\frac{6}{10} - 10\frac{3}{10}$

9 Look at $3\frac{1}{4}$ and $5\frac{3}{4}$. Subtract the lesser from the greater fraction.

10 Look at $3\frac{1}{3}$ and $1\frac{1}{3}$. What is the difference?

11 How much greater is $10\frac{4}{5}$ than $3\frac{1}{5}$?

12 How much less is $3\frac{2}{10}$ than $5\frac{8}{10}$?



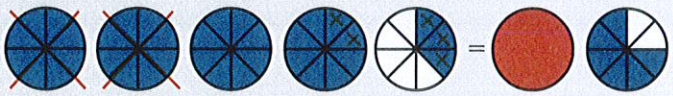
A	B	C	D	E	F
$2\frac{6}{10}$	$1\frac{2}{10}$	$2\frac{2}{4}$	$8\frac{1}{4}$	$3\frac{2}{6}$	2
$5\frac{2}{5}$	$15\frac{3}{10}$	$3\frac{2}{4}$	$7\frac{3}{5}$	$13\frac{2}{5}$	$6\frac{4}{8}$
G	H	I	J	K	L

Objective: Find differences between two mixed numbers with like denominators.

Mixed Number Subtraction

Example

Find the equation shown by the model.



The starting number is $4\frac{3}{8}$.

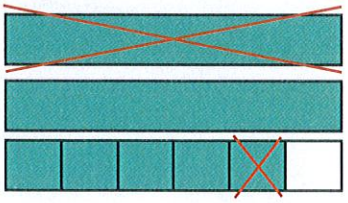
The number being subtracted is $2\frac{5}{8}$.

The difference is $1\frac{6}{8}$.

So, the equation is $4\frac{3}{8} - 2\frac{5}{8} = 1\frac{6}{8}$.

Find the equation shown by the model.

1



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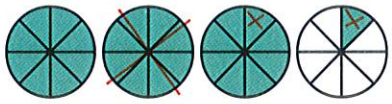

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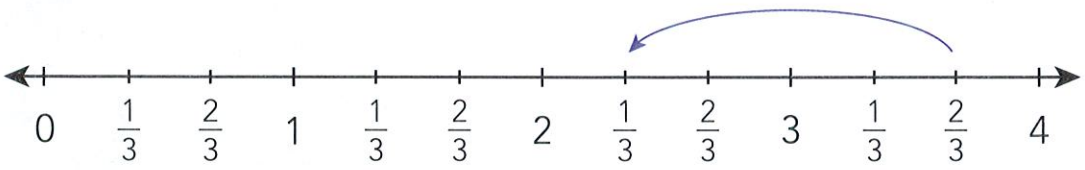

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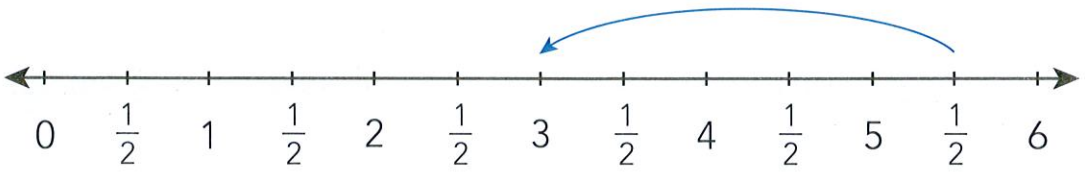

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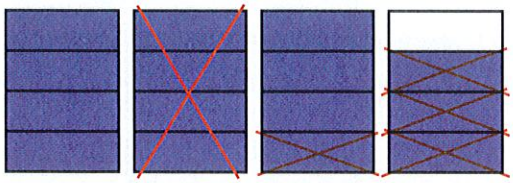

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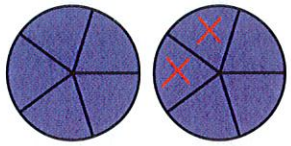


Find the difference.

7 $3\frac{4}{6} - 1\frac{2}{6}$

8 $4 - 2\frac{1}{10}$

9 $2\frac{3}{4} - 1\frac{1}{4}$

10 $3\frac{1}{12} - 1\frac{5}{12}$

11 $1\frac{60}{100} - \frac{62}{100}$

12 $2\frac{4}{6} - 1\frac{3}{6}$

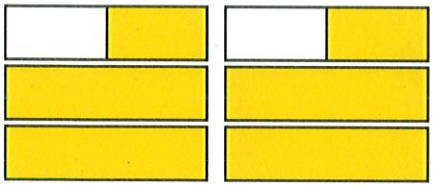
A	B	C	D	E	F
$1\frac{1}{6}$	$1\frac{9}{10}$	$2\frac{5}{6} - 1\frac{1}{6} = 1\frac{4}{6}$	$5\frac{1}{2} - 2\frac{1}{2} = 3$	$3\frac{3}{4} - 2 = 1\frac{3}{4}$	$\frac{98}{100}$
$2 - \frac{2}{5} = 1\frac{3}{5}$	$3\frac{1}{8} - 1\frac{2}{8} = 1\frac{7}{8}$	$2\frac{2}{6}$	$1\frac{8}{12}$	$3\frac{2}{3} - 1\frac{1}{3} = 2\frac{1}{3}$	$1\frac{2}{4}$
G	H	I	J	K	L

Objective: Find equations for mixed number subtraction problems using models.

Fraction Multiplication

Find the equation and solution used to solve the problem.

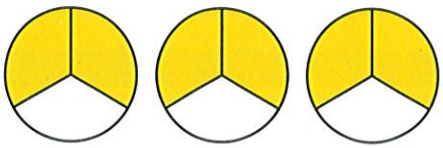
1 The distance from David's house to Mark's house is $2\frac{1}{2}$ miles. How many miles is it to go from David's house to Mark's house and back?



2 Scott walked a $\frac{3}{10}$-mile hiking trail 5 times. How many miles did Scott walk?

3 Pari has saved $100. Her sister has $\frac{1}{2}$ as much. How much money does Pari's sister have saved?

4 A recipe for a batch of cornbread calls for $\frac{2}{3}$-cup sugar. How many cups of sugar are needed for 3 batches of cornbread?



5 A monster pizza has 20 slices. If Norman and his friend ate $\frac{2}{5}$ of the slices, then how many slices did they eat?

6 During the school fundraiser Amy sold 16 jars of mixed nuts. Each jar weighs $\frac{7}{8}$-pound. How many pounds of mixed nuts did Amy sell?

7 Out of the 18 customers that came into a store, $\frac{1}{6}$ bought something. How many customers bought something at the store?

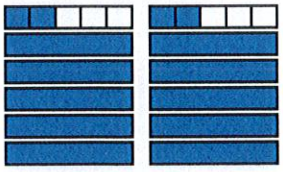
8 Paula's aunt and uncle made enough ribs in order for each of their picnic guests to get $1\frac{1}{2}$ pounds. If there were 10 guests, how many pounds of ribs did they make?

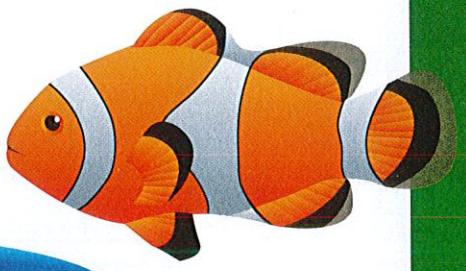
9 Meera took $8 with her to the gift shop. She spent $\frac{3}{4}$ of her money on a shirt. How many dollars did the shirt cost?

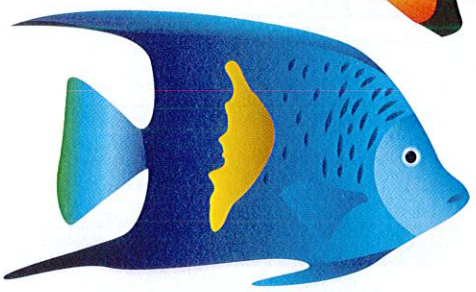
10 Keith has 12 cups of flour. He uses $\frac{5}{6}$ of the flour. How many cups of flour did Keith use?

11 Virginia is $\frac{11}{12}$ as old as her 24-year-old aunt. How many years old is Virginia?

12 On his fishing trip, Glenn caught 2 fish. Each weighed $5\frac{2}{5}$ pounds. How many pounds did these fish weigh together?



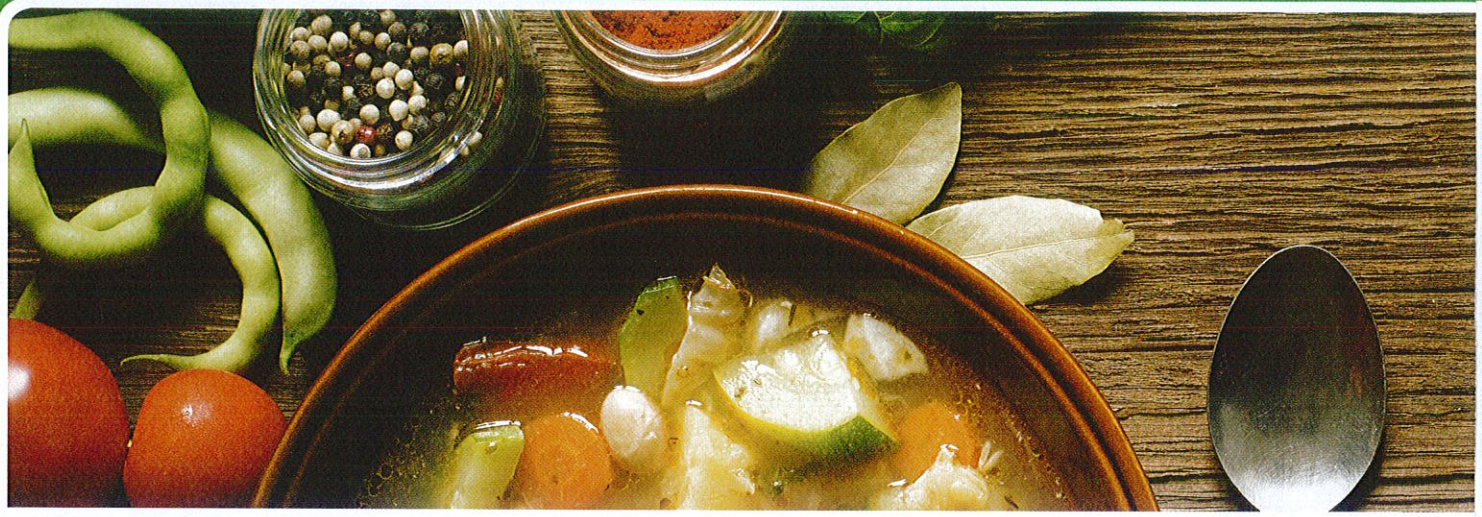




A	B	C	D	E	F
$24 \times \frac{11}{12} = 22$	$100 \times \frac{1}{2} = 50$	$10 \times 1\frac{1}{2} = 15$	$2 \times 5\frac{2}{5} = 10\frac{4}{5}$	$12 \times \frac{5}{6} = 10$	$3 \times \frac{2}{3} = 2$
$8 \times \frac{3}{4} = 6$	$20 \times \frac{2}{5} = 8$	$5 \times \frac{3}{10} = \frac{15}{10}$	$16 \times \frac{7}{8} = 14$	$2 \times 2\frac{1}{2} = 5$	$18 \times \frac{1}{6} = 3$
G	H	I	J	K	L

Objective: Solve word problems that involve multiplication of whole numbers by fractions and mixed numbers.

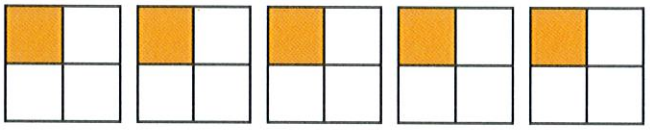
Unit Fraction Multiplication



Solve the problem.

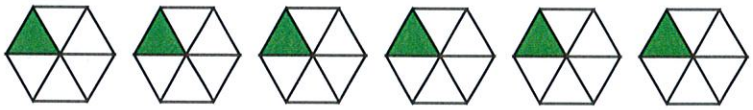
1 A recipe for a batch of soup calls for $\frac{1}{8}$-teaspoon pepper. How many teaspoons of pepper would be needed for 3 batches of soup?

2 Larry jogged 5 laps around the $\frac{1}{4}$-mile track. How many miles did Larry jog?



3 Arjun has a collection of 12 stamps. Rami has $\frac{1}{3}$ as many stamps. How many stamps does Rami have?

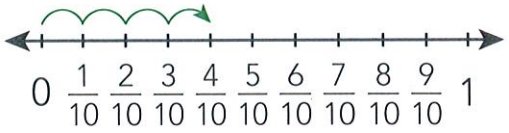
4 Stacy took $6 with her to the snack bar. She spent $\frac{1}{6}$ of her money on a drink. How many dollars did the drink cost?



5 Karen bought 5 bags of trail mix, each of which contain $\frac{1}{2}$ pound. How many pounds of trail mix did she buy in all?

6 Last evening, the concession stand workers prepared 10 pounds of hot dogs. It prepared $\frac{1}{2}$ as many hamburgers. How many pounds of hamburgers did they prepare?

7 The length of Ken's driveway is $\frac{1}{10}$ mile. The width of his yard is 4 times as long. How many miles wide is Ken's yard?



8 Out of the 15 quizzes that Jerome took in science, he got A's on $\frac{1}{5}$ of them. How many A's did Jerome earn on his science quizzes?

9 A movie was 2 hours long. The previews lasted $\frac{1}{4}$ as long as the movie. How many hours long were the previews?

10 Each question on the math test was worth $\frac{1}{100}$ of the total number of test points. What portion of the total number of test points are 8 questions worth?

11 Margaret uses 1 cup of mayonnaise in her potato salad recipe. How much mayonnaise would she use to make $\frac{1}{2}$ of the recipe?

12 A long sandwich has 24 slices. Joe ate $\frac{1}{12}$ of the slices. How many slices of sandwich did Joe eat?

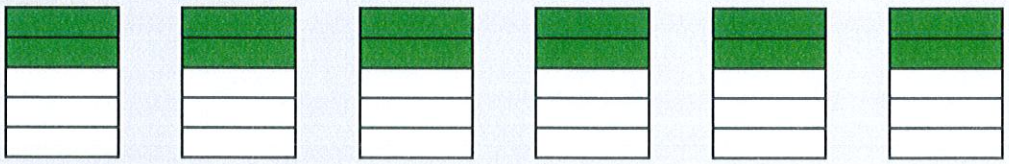
A	B	C	D	E	F
2	3	$\frac{2}{4}$	4	$\frac{4}{10}$	$\frac{8}{100}$
$\frac{5}{4}$	5	$\frac{5}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	1
G	H	I	J	K	L

Objective: Solve word problems that involve whole number and unit fraction multiplication.

Multiplying Whole Numbers by Fractions

Example

Find the equation shown by the model.

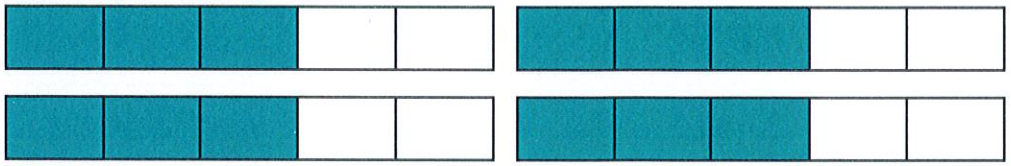


This model shows the **whole number 6** × the fraction $\frac{2}{5}$.

$6 \times \frac{2}{5} = \frac{12}{5}$

Find the equation shown by the model.

1



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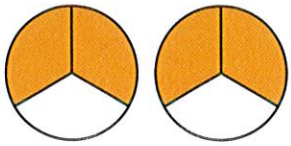

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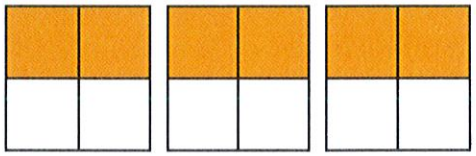

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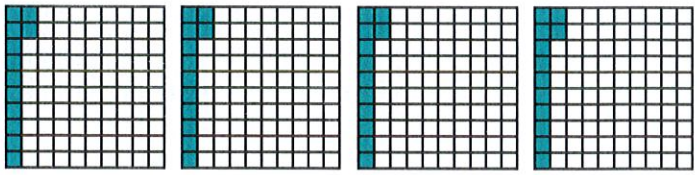

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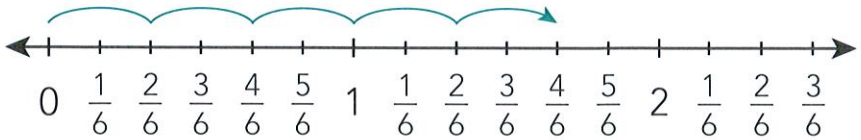

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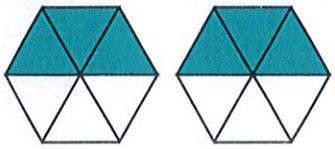

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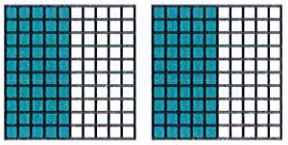

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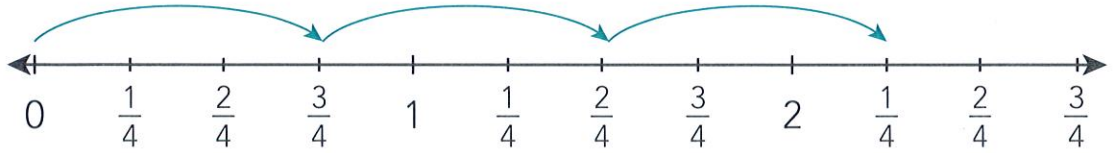

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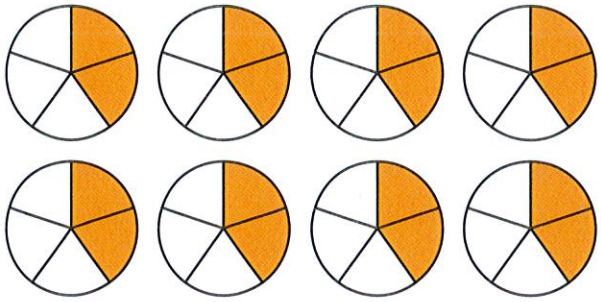


A	B	C	D	E	F
$3 \times \frac{2}{4} = \frac{6}{4}$	$3 \times \frac{3}{4} = \frac{9}{4}$	$5 \times \frac{2}{6} = \frac{10}{6}$	$2 \times \frac{2}{3} = \frac{4}{3}$	$4 \times \frac{12}{100} = \frac{48}{100}$	$5 \times \frac{3}{10} = \frac{15}{10}$
$6 \times \frac{3}{8} = \frac{18}{8}$	$2 \times \frac{50}{100} = 1$	$8 \times \frac{2}{5} = \frac{16}{5}$	$2 \times \frac{3}{6} = \frac{6}{6} = 1$	$7 \times \frac{5}{12} = \frac{35}{12}$	$4 \times \frac{3}{5} = \frac{12}{5}$
G	H	I	J	K	L

Objective: Find equations for whole number and fraction multiplication problems using models.

A Fraction of It

Solve the problem.

1. Zoey is baking cookies. She wants to make $\frac{1}{2}$ of a batch. The full recipe uses 3 cups of flour. How many cups of flour will Zoey need?

2. Theodore owns a 500-acre farm. He grows soybeans on $\frac{3}{4}$ of the farm. On how many acres does he grow soybeans?

3. The school bookstore sold $\frac{4}{5}$ of the 800 planners it had in stock. How many planners did the bookstore sell?

4. Danilo is preparing to run in a marathon. This week he set a goal to run 24 miles. So far Danilo has run $\frac{2}{3}$ of his goal. How many miles has he run so far?

5. The recipe on the side of the box of Uncle Bernard's waffle mix requires $\frac{1}{3}$ cup vegetable oil to make waffle batter. If you want to make 4 times the amount of batter this recipe makes, then how many cups of vegetable oil will you need to use?

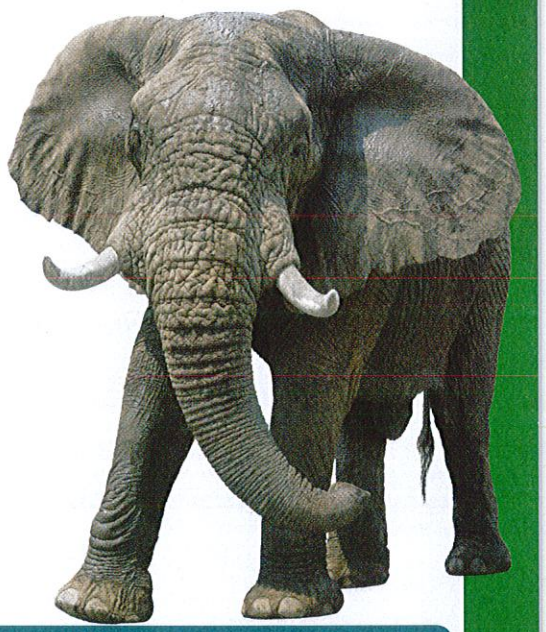
6. Makoto spent $\frac{1}{2}$ hour doing homework. His sister Asa spent 5 times as long to complete her homework. How many hours did Asa spend doing her homework?

7 Lynnette is going to make 9 scarves. It takes $\frac{1}{3}$ yard of fabric to make one scarf. How many yards of fabric will Lynnette need?

8 Antonio operates a snack shop at the skating rink. He notices that he has sold $\frac{1}{4}$ of his supply of 200 candy bars. How many candy bars has Antonio sold?

9 The lumber yard has plywood panels that are $\frac{3}{8}$ of an inch thick. The manager of the lumber yard places the panels in stacks of 40. How many inches thick are each of the stacks?

10 An elephant at the Charlotte Zoo eats, on average, 150 pounds of food a day. A giraffe at the Charlotte Zoo eats, on average, about $\frac{1}{2}$ as many pounds of food per day as the elephant. About how many pounds of food per day does the giraffe eat?



11 Tyneal has a collection of 80 seashells. She found $\frac{3}{5}$ of her shells at various beaches throughout Florida. How many of Tyneal's shells are from Florida?

12 Cameron and Jason earned $50 washing cars. Since Cameron did most of the work, they decided that Cameron should get $\frac{3}{5}$ of the money. How much money, in dollars, does Cameron get?

A	B	C	D	E	F
375	$2\frac{1}{2}$	3	75	15	640
50	30	16	$1\frac{1}{2}$	48	$1\frac{1}{3}$
G	H	I	J	K	L

Objective: Solve word problems involving multiplying a fraction and a whole number.

Let's Get Small!

Solve the problem.

1 $\frac{2}{3} \times 9$

2 $\frac{1}{6} \times 12$

3 $8 \times \frac{7}{8}$

4 $\frac{1}{3} \times 10$

5 $20 \times \frac{1}{4}$

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

7 $\frac{7}{10} \times 12$

8 $\frac{8}{10} \times 5$

9 $3 \times \frac{3}{8}$

10 $5 \times \frac{9}{10}$

11 Willie pours three 1-quart cans of juice, each $\frac{3}{4}$ full, into a pitcher. How many quarts of juice are in the pitcher?

12 The 45-seat school bus is $\frac{3}{5}$ full. How many students are on the bus?

Tip

Remember—when you multiply a whole number by a fraction less than 1, the product will be less than the whole number.

A	B	C	D	E	F
2	27	$3\frac{1}{3}$	6	$1\frac{1}{8}$	5
4	$1\frac{4}{6}$	$8\frac{4}{10}$	$4\frac{5}{10}$	$2\frac{1}{4}$	7
G	H	I	J	K	L

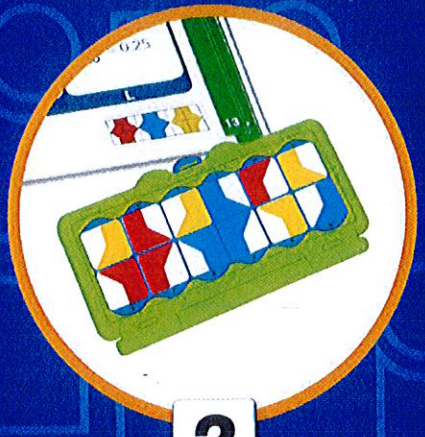
Objective: Find the product of a fraction and a whole number.

Four simple steps to success with VersaTiles®.

Grade 4

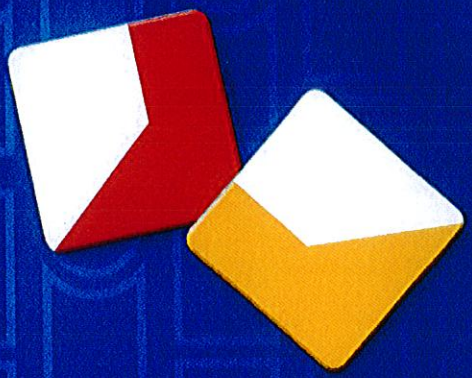
1

Answer questions



2

Flip and check

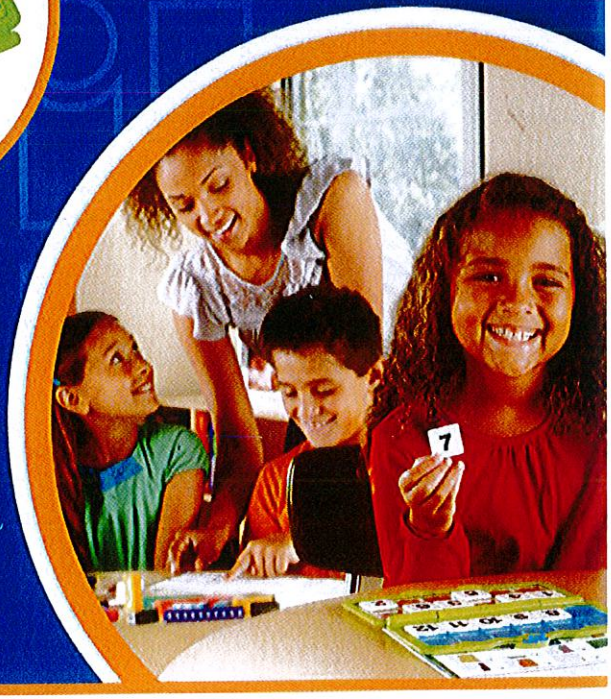


3

Open and self-correct

4

Match



Did you know...

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