

What Do You Already Know? (page 1 of 2)

Answer the questions below.

- 1.** In one group, 2 out of 5 students are wearing glasses.
 - a.** What fraction is that?

 - b.** What fraction is not wearing glasses?

- 2.**
 - a.** Tyler cut his small pizza into sixths. He ate the whole pizza. How many pieces did he eat?

 - b.** Alicia cut her pizza into eighths. She ate half of the pizza. How many pieces did she eat?

- 3.** In one class, $\frac{1}{6}$ of the students raked leaves while the rest picked up trash on the playground. What fraction of the students picked up trash?

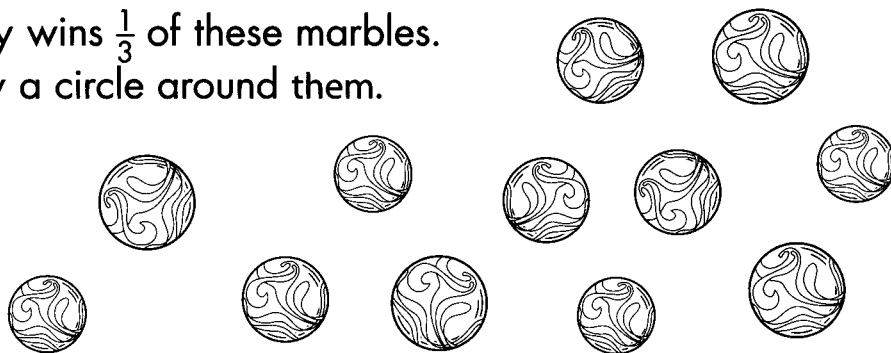
- 4.** A spelling pretest had 14 words.
 - a.** Cecilia spelled 100% of the words correctly. How many words did she spell correctly?

 - b.** Yumiko spelled only 7 of the 14 words correctly. What percent of the words did she spell correctly?

What Do You Already Know? (page 2 of 2)

Answer the questions below.

5. **a.** Avery wins $\frac{1}{3}$ of these marbles.
Draw a circle around them.



- b.** Hana wins $\frac{2}{3}$ of the marbles.
How many marbles does she win?

6. When 8 children go on a picnic, $\frac{6}{8}$ of them wear jeans.
a. How many wear jeans?

- b.** What fraction does not wear jeans?

7. True or False? Circle T or F. Explain how you know.
Use a picture if it helps.

a. $\frac{2}{3} > \frac{2}{6}$ T F

b. $\frac{1}{4} < \frac{2}{8}$ T F

c. $1 = \frac{1}{3} + \frac{1}{2} + \frac{1}{6}$ T F

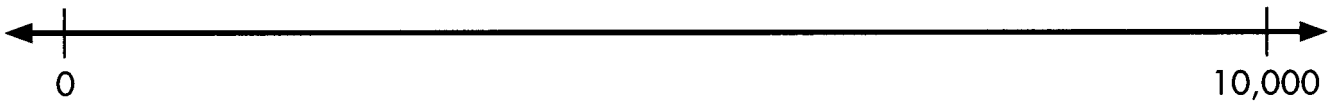


How Far to 10,000?

Imagine that you have a long number line that goes from 0 to 10,000. Find these distances on the number line.

NOTE Students use addition and subtraction to solve problems about the difference between some number and 10,000.

SMH 8-9, 11



1. How far is it on the number line from 4,590 to 10,000?
2. How far is it on the number line from 7,002 to 10,000?
3. How far is it on the number line from 648 to 10,000?
4. How far is it on the number line from 5,151 to 10,000?
5. How far is it on the number line from 93 to 10,000?

Name _____

Date _____

What's That Portion?

Homework



Everyday Uses of Fractions, Decimals, and Percents

List in the spaces below the everyday uses you find for fractions, decimals, and percents. Cut out your examples from used magazines and newspapers, and attach them to this sheet.

NOTE Students look for everyday uses of fractions, decimals, and percents, which will be added to a list the class started today.

SMH 40

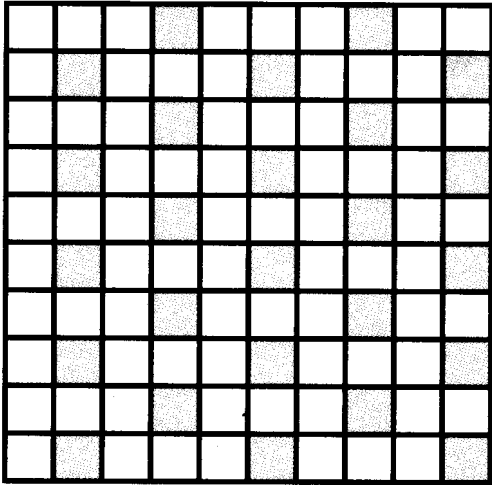
Everyday Uses of Fractions

Everyday Uses of Decimals

Everyday Uses of Percents

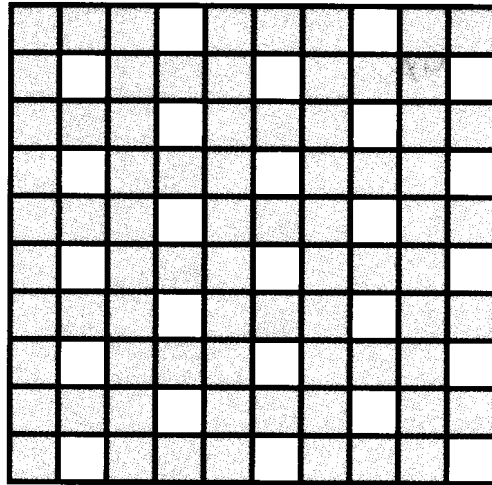
Name the Shaded Portion

Below each grid, name the percent and some fractions to describe the portion that is shaded.

Grid 1

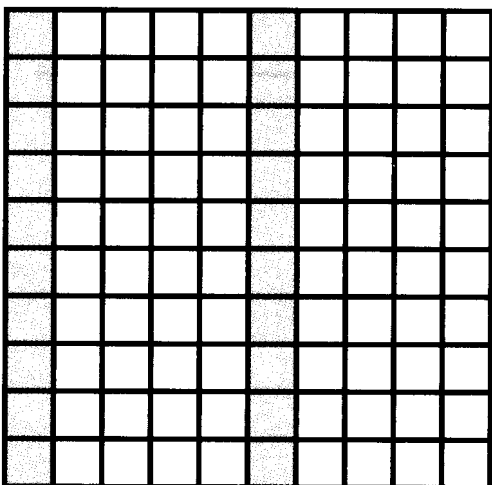
Percent: _____

Fractions: _____

Grid 2

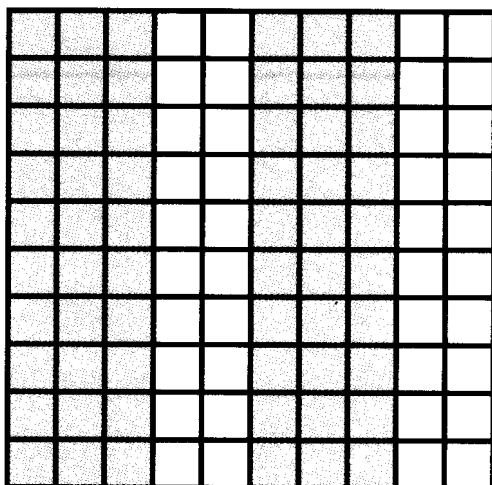
Percent: _____

Fractions: _____

Grid 3

Percent: _____

Fractions: _____

Grid 4

Percent: _____

Fractions: _____

Name _____

Date _____

What's That Portion?

Daily Practice



Solve Two Ways, Addition

Solve each problem in two ways. Use clear and concise notation in your solutions.

NOTE Students work on flexibility in choosing solution strategies for solving addition problems.

SMH 8-9

1. $6,725 + 2,373 = \underline{\hspace{2cm}}$

First way:

Second way:

2.
$$\begin{array}{r} \$143.85 \\ + 66.37 \\ \hline \end{array}$$

First way:

Second way:



What Fractions Do You See?

Write statements about a small group of people, such as family members or friends, just as we did in class. Draw the group and the characteristic you are describing, and record the fraction that represents each statement. Write equivalent fractions that you know.

NOTE Students identify fractional parts of a group and write equivalent fractions that represent each part. They can choose their family, a group of friends, or some other group.

SMH 42, 44

Example: 2 out of 6 people have black hair. Fraction: $\frac{2}{6} = \frac{1}{3}$

This is the group I am describing:

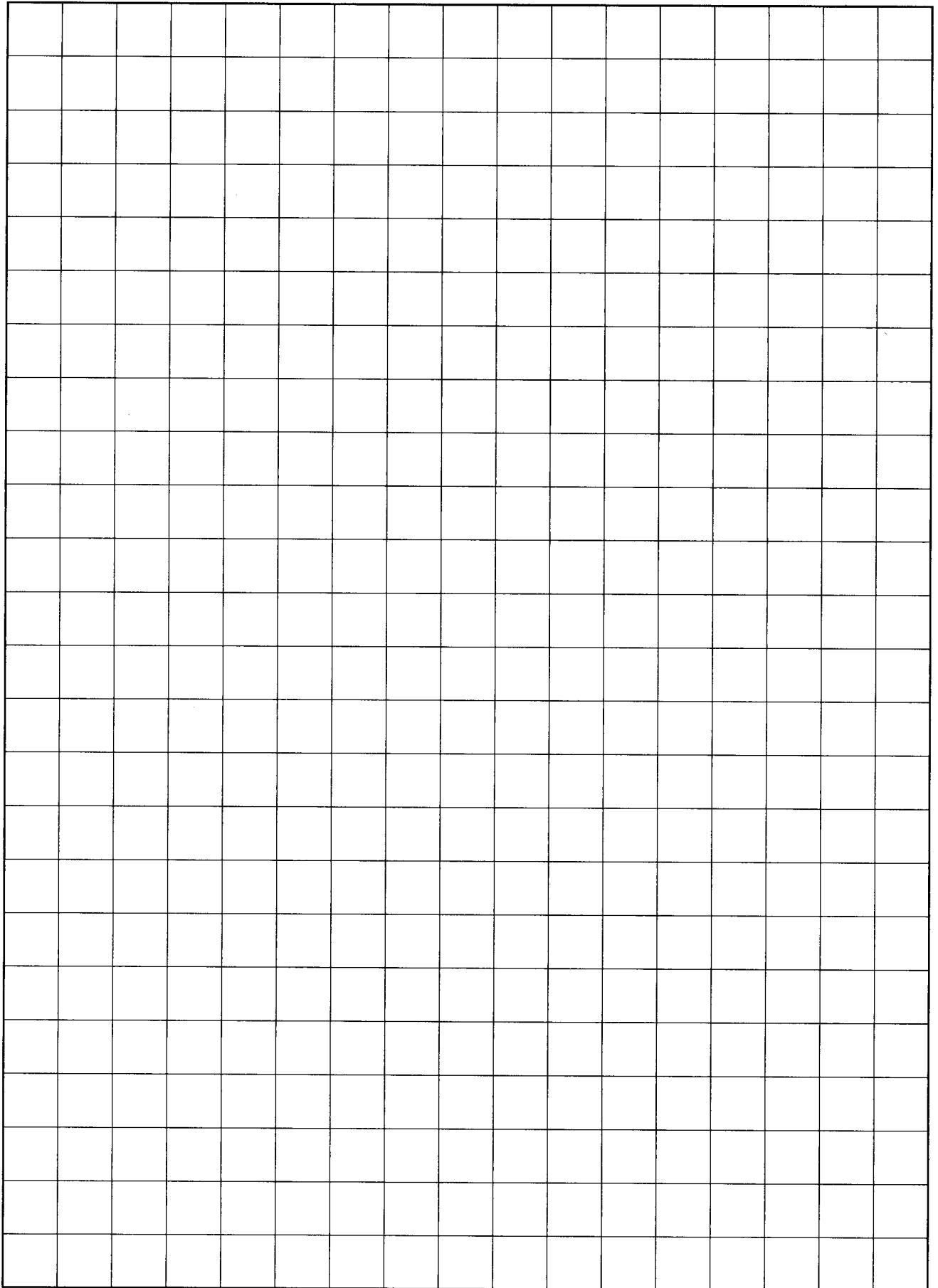
_____ out of _____ people _____. Fraction: _____

_____ out of _____ people _____. Fraction: _____

_____ out of _____ people _____. Fraction: _____

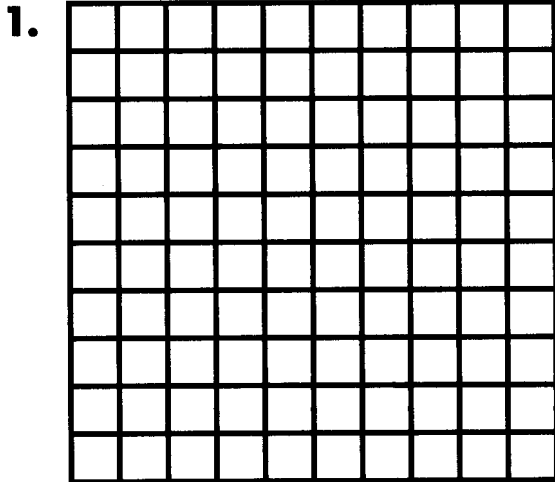
_____ out of _____ people _____. Fraction: _____

_____ out of _____ people _____. Fraction: _____

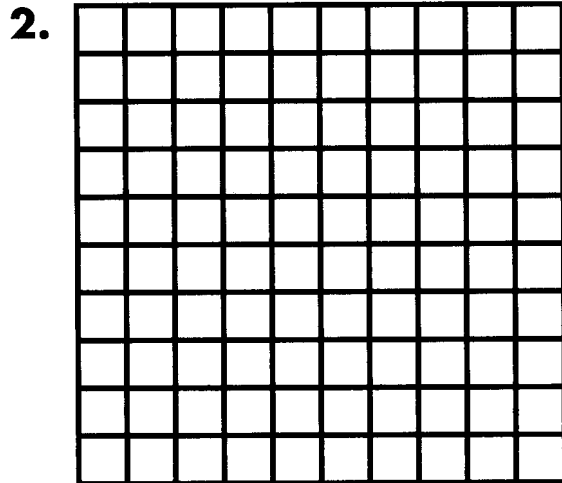


What's That Portion?

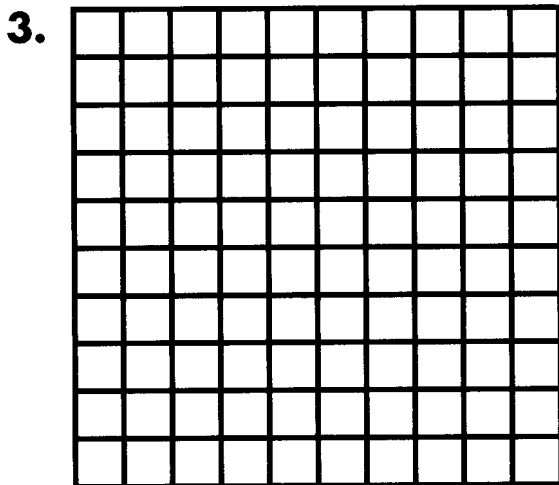
10 × 10 Grids

Fraction: $\frac{\quad}{100}$

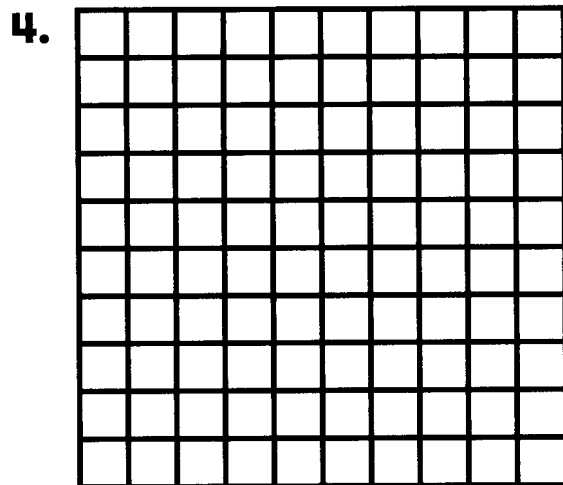
Percent: _____%

Fraction: $\frac{\quad}{100}$

Percent: _____%

Fraction: $\frac{\quad}{100}$

Percent: _____%

Fraction: $\frac{\quad}{100}$

Percent: _____%

Name _____

Date _____

What's That Portion?

Fraction and Percent Equivalents

$\frac{1}{2} =$	$\frac{2}{2} = 100\%$	$\frac{1}{3} =$	$\frac{2}{3} =$	$\frac{3}{3} = 100\%$	$\frac{1}{4} =$	$\frac{2}{4} =$	$\frac{3}{4} =$	$\frac{4}{4} = 100\%$	$\frac{1}{5} =$	$\frac{2}{5} =$	$\frac{3}{5} =$	$\frac{4}{5} =$	$\frac{5}{5} = 100\%$	$\frac{1}{6} =$	$\frac{2}{6} =$	$\frac{3}{6} =$	$\frac{4}{6} =$	$\frac{5}{6} =$	$\frac{6}{6} = 100\%$	$\frac{1}{8} =$	$\frac{2}{8} =$	$\frac{3}{8} =$	$\frac{4}{8} =$	$\frac{5}{8} =$	$\frac{6}{8} =$	$\frac{7}{8} =$	$\frac{8}{8} = 100\%$	$\frac{1}{10} =$	$\frac{2}{10} =$	$\frac{3}{10} =$	$\frac{4}{10} =$	$\frac{5}{10} =$	$\frac{6}{10} =$	$\frac{7}{10} =$	$\frac{8}{10} =$	$\frac{9}{10} =$	$\frac{10}{10} = 100\%$
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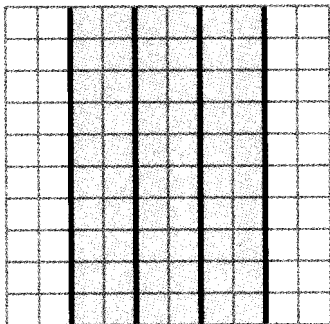
Fractions of 100

Write the fraction for the shaded part of each grid. Then write the percent.

NOTE Students identify the fractional part of a square that is shaded. They represent it with a fraction and a percent.

SMH 47-49

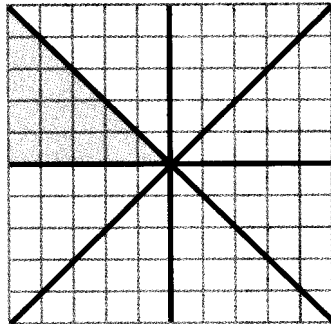
1.



Fraction: _____

Percent: _____

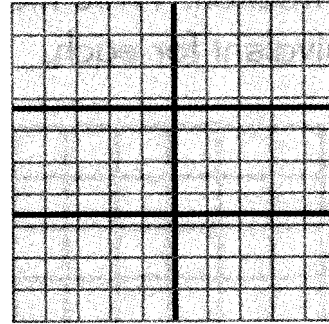
2.



Fraction: _____

Percent: _____

3.



Fraction: _____

Percent: _____

Ongoing Review

4. Beth has 60 toy cars and trucks. 75% of them are blue. How many are blue?

A. 75

B. 45

C. 30

D. 15



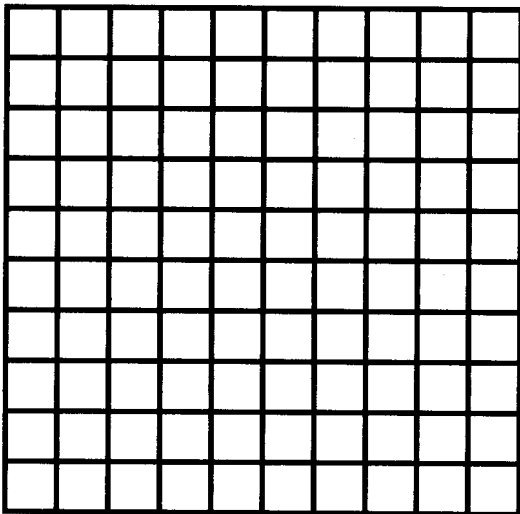
Seeing Fractions and Percents on Grids

NOTE Students use 10×10 grids to find fraction and percent equivalents.

SMH 47-49

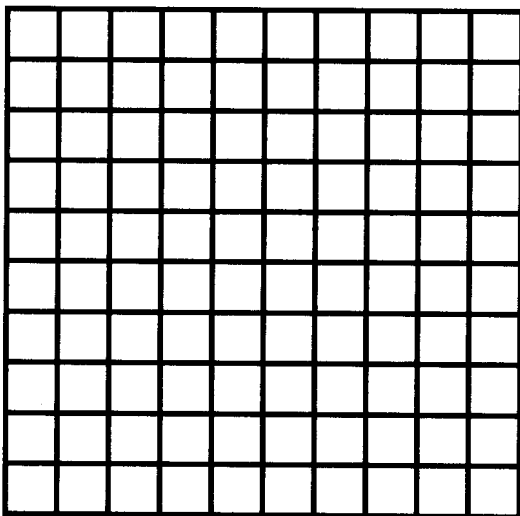
For each grid below, choose a fraction and color in the portion of the grid that represents the fraction. Write the fraction and the percent equivalent for each.

1.



$$\underline{\hspace{2cm}} = \frac{\underline{\hspace{2cm}}}{100} = \underline{\hspace{2cm}}\%$$

2.



$$\underline{\hspace{2cm}} = \frac{\underline{\hspace{2cm}}}{100} = \underline{\hspace{2cm}}\%$$

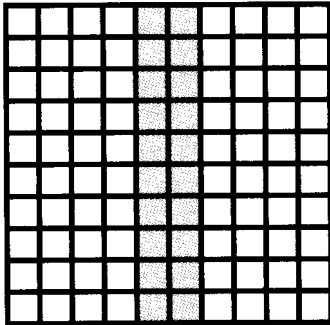


Match the Fraction and Percent

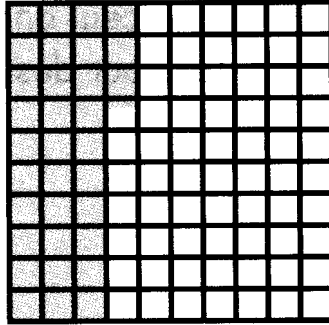
NOTE Students match fractions and percents to the shaded part of a square.

SMH 47-49

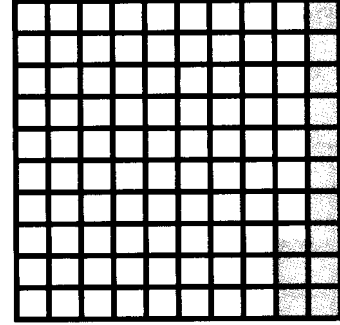
Write the letter of each grid to the fractions and percent that describe the shaded part of the grid.



A



B



C

1. $\frac{2}{10}$ _____

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

3. $33\frac{1}{3}\%$ _____

4. $\frac{1}{8}$ _____

5. $12\frac{1}{2}\%$ _____

6. $\frac{1}{5}$ _____

7. $\frac{20}{100}$ _____

8. 20% _____

Ongoing Review

9. Sharon and Fred bought a blueberry pie. Sharon ate $\frac{4}{6}$ of the pie. Fred ate $\frac{1}{3}$ of the pie. How much of the pie did they eat altogether?

A. $\frac{1}{3}$ of the pie

C. $\frac{5}{9}$ of the pie

B. $\frac{1}{2}$ of the pie

D. $\frac{3}{3}$ of the pie



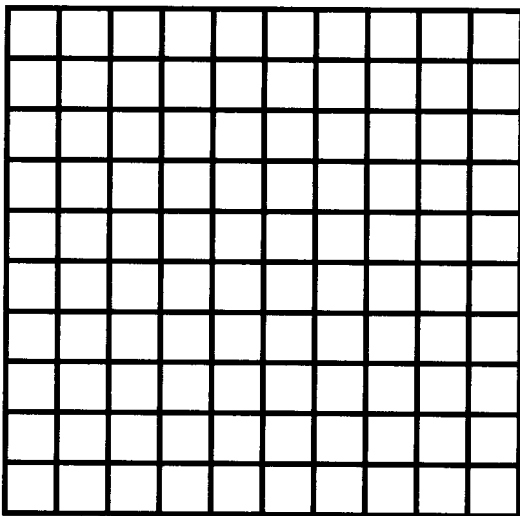
Designs on Grids

On each grid below, draw and color in a design. Then determine the fractional part and percent of the grid you have colored. Your design cannot be $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, or any number of tenths of the grid, and it cannot be the whole grid. Write the percent and any equivalent fractions you know for your design.

NOTE Students use 10×10 grids to find fraction and percent equivalents.

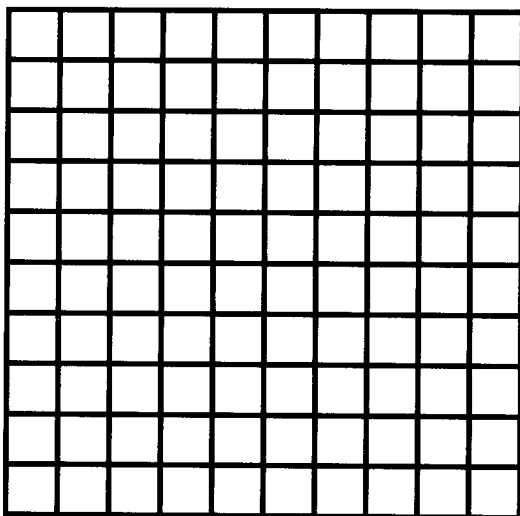
SMH 47-49

1.



$$\underline{\hspace{2cm}} = \frac{\underline{\hspace{2cm}}}{100} = \underline{\hspace{2cm}}\%$$

2.



$$\underline{\hspace{2cm}} = \frac{\underline{\hspace{2cm}}}{100} = \underline{\hspace{2cm}}\%$$

School Days

 (page 1 of 2)

Solve these problems.

- 1. a.** In a class of 30 students, 50% went to the library.
How many students went to the library?

- b.** At the same time, 10 of the students helped
with the canned food drive.

What fractional part of the class is that? _____

What percentage is that? _____

- c.** The rest of the students stayed in the classroom to
finish their homework.

What fraction of students stayed in the classroom? _____

What percent is that? _____

- d.** The next day, $66\frac{2}{3}\%$ of the students brought cans of
food for the food drive. How many students brought
in cans of food?

- 2. a.** A spelling pretest had 20 words. Janet spelled
10 of them correctly. What percent of the words
did she spell correctly?

- b.** Benito spelled 75% of the words correctly.
How many words did he spell correctly?

School Days (page 2 of 2)

Solve these problems.

- 3.** There are 50 students in the fifth grade at Clark School. One day, 20% of them were absent. How many fifth graders were in school that day? Show how you figured out your answer.

- 4. a.** There are 64 fifth graders at Parks School. $\frac{3}{8}$ of them bring their own lunch to school. How many of them bring their own lunch? Show how you figured out your answer.

- b.** What percentage of the fifth graders bring their lunch to school?



Solve Two Ways, Subtraction

NOTE Students work on flexibility in choosing solution strategies for solving subtraction problems.

SMH 10-13

Solve each problem in two ways. Use clear and concise notation in your solutions.

1.
$$\begin{array}{r} 8,593 \\ -2,748 \\ \hline \end{array}$$

First way:

Second way:

2. $12,500 - 3,670 = \underline{\hspace{2cm}}$

First way:

Second way:



Finding Fraction Equivalents

List as many fractions as you can that are equal to the percent listed.

For example: $50\% = \frac{1}{2}, \frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \frac{5}{10}, \frac{50}{100}, \frac{100}{200}$

NOTE Students find equivalent fractions and percents. Students will know some of these equivalents easily and may draw pictures to figure out others.

SMH 47-49

1. $33\frac{1}{3}\% =$ _____

2. $25\% =$ _____

3. $40\% =$ _____

4. $75\% =$ _____

5. $80\% =$ _____



The Percent Trail

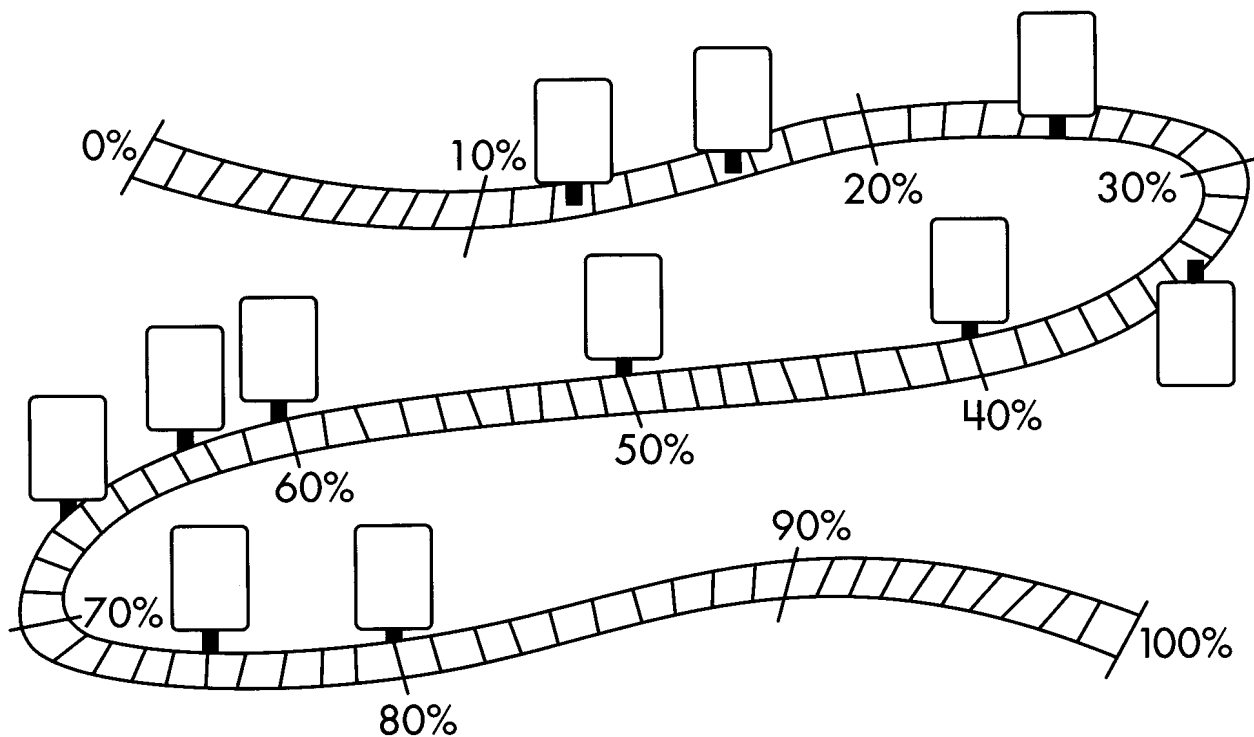
Markers show where these fractions are located along the trail.

NOTE Students put fractions and percents in order along a "trail." This trail provides a visual image of fraction-percent equivalents, like those they are working on in class.

SMH 46-51

$\frac{1}{2}$ $\frac{1}{3}$ $\frac{2}{3}$ $\frac{1}{4}$ $\frac{3}{4}$ $\frac{2}{5}$ $\frac{3}{5}$ $\frac{4}{5}$ $\frac{1}{6}$ $\frac{1}{8}$ $\frac{5}{8}$

1. Finish the markers by writing the fractions on them.



Ongoing Review

2. Cross out the equation that is **not** true.

A. $50\% = \frac{1}{2}$

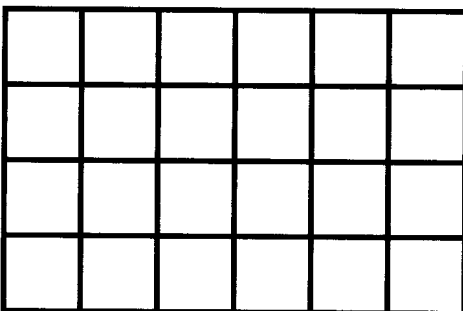
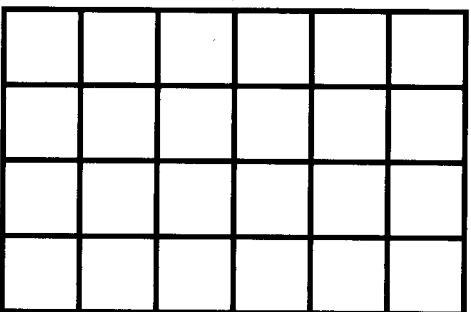
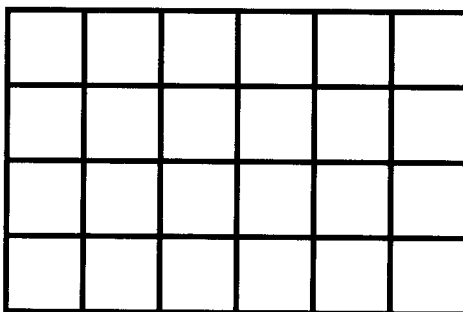
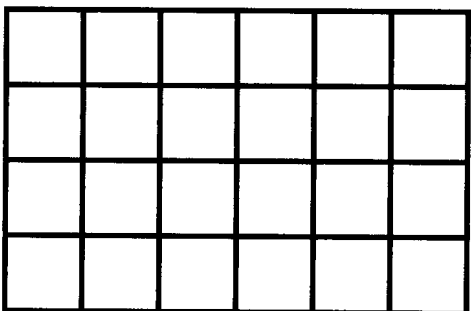
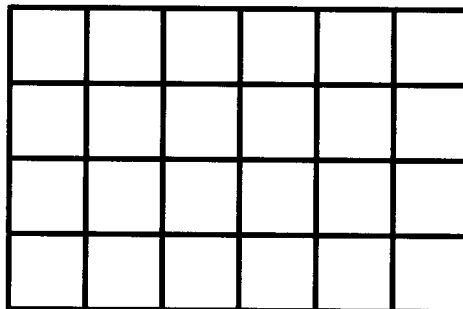
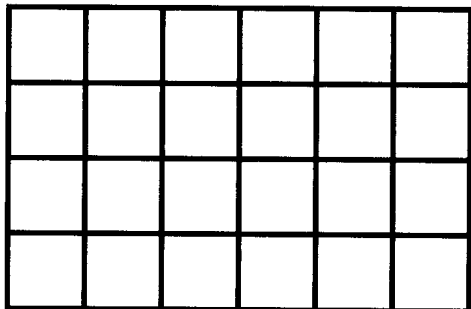
C. $75\% = \frac{3}{4}$

B. $30\% = \frac{1}{3}$

D. $\frac{1}{10} = 10\%$

Shading 4×6 Rectangles

Shade $\frac{7}{8}$ of the first rectangle. Shade $\frac{5}{6}$ of the second rectangle.



Which Is Greater?

(page 1 of 2)



Solve the problems below and explain or show how you determined the answer.

1. Which is greater? $\frac{7}{10}$ or $\frac{3}{5}$

2. Which is greater? $\frac{7}{8}$ or $\frac{9}{10}$

3. Which is greater? $\frac{4}{3}$ or $\frac{3}{4}$

4. Which is greater? $\frac{3}{8}$ or $\frac{1}{3}$

Which Is Greater? (page 2 of 2)

Solve the problems below and explain or show how you determined the answer.

5. Which is greater? $\frac{3}{5}$ or $\frac{1}{2}$
6. Janet and Martin each got a pizza for lunch, and each pizza is the same size. Janet cut hers into 3 equal pieces and ate 1 piece. Martin cut his pizza into 5 equal pieces and ate 2 pieces. Who ate more pizza?
7. Charles and Rachel each got a pizza, and each pizza is the same size. Charles cut his pizza into 8 equal pieces. For lunch he ate $\frac{1}{2}$ of the pizza, and for a snack he ate 1 more piece. Rachel cut her pizza into 10 equal pieces. For lunch she ate 4 pieces, and for a snack she ate 2 more pieces. Who ate more pizza?
8. Mercedes and Nora each got some frozen yogurt for a treat. Mercedes ate $\frac{3}{8}$ of her yogurt, and Nora ate $\frac{3}{4}$ of her yogurt. They agree that they ate the same amount of yogurt. Explain how that could be true. Use a picture or diagram to show your ideas.



Related Problems

Solve the related problems in each set below. As you work on these problems, think about how solving the first problem in each set may help you solve the others.

NOTE Students practice solving addition and subtraction problems in related sets. Ask students what they notice about the place value of the digits in the sums or differences in each set.

1. $3,040 + 260 =$ _____

$3,040 + 263 =$ _____

$3,140 + 263 =$ _____

2. $6,600 - 20 =$ _____

$7,600 - 20 =$ _____

$7,610 - 20 =$ _____

3. $9,532 - 3,000 =$ _____

$9,532 - 2,999 =$ _____

$9,532 - 2,989 =$ _____

4. $12,420 + 600 =$ _____

$12,420 + 1,600 =$ _____

$12,420 + 1,637 =$ _____

5. $34,740 + 200 =$ _____

$34,740 + 300 =$ _____

$34,740 + 330 =$ _____

$34,740 + 333 =$ _____

6. $15,030 - 100 =$ _____

$15,030 - 120 =$ _____

$15,030 - 140 =$ _____

$15,030 - 145 =$ _____



Comparing $\frac{2}{3}$ and $\frac{3}{4}$



NOTE Students write what they know about $\frac{2}{3}$ and $\frac{3}{4}$ and explain which one is greater.

SMH 50–51

1. Write at least three statements showing what you know about the fraction $\frac{2}{3}$. Think about equivalent fractions, percents, how this fraction is related to 1 or $\frac{1}{2}$, or other things you know.

2. Write at least three statements showing what you know about the fraction $\frac{3}{4}$.

3. Find two different ways to show how you know whether $\frac{3}{4}$ is greater than $\frac{2}{3}$.

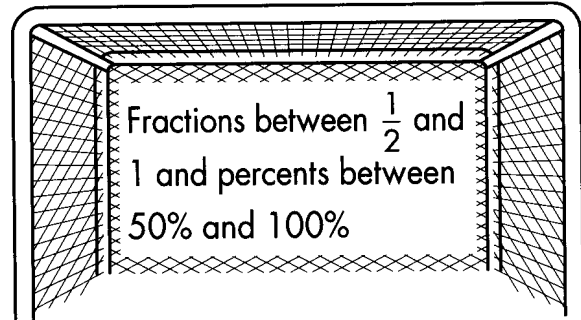
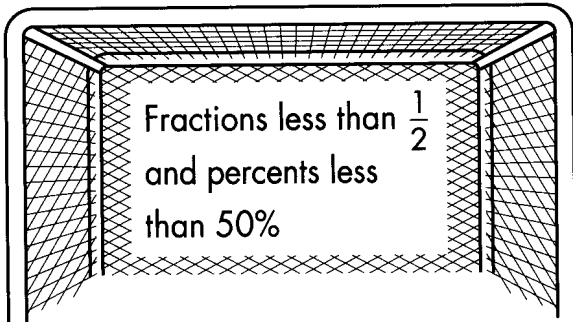


Goal!

1. Draw lines to put each ball in the correct goal.

NOTE Students use $\frac{1}{2}$ and 1 as reference points for fractions and percents.

SMH 50-51



2. Is 70% greater than or less than $\frac{1}{2}$?
How do you know?

Ongoing Review

3. Circle the equation that is **not** true.

A. $75\% = \frac{3}{4}$

C. $30\% = \frac{1}{3}$

B. $50\% = \frac{3}{6}$

D. $100\% = \frac{12}{12}$

Name _____

Date _____

What's That Portion?

Homework



Comparing $\frac{7}{8}$ and $\frac{5}{6}$

Find three ways to show that $\frac{7}{8}$ is greater than $\frac{5}{6}$.
Use pictures, numbers, and/or words.

NOTE Students compare two fractions and explain how they know which one is greater.

SMH 50-51

1.

2.

3.

Fraction and Percent Problems (page 1 of 2)



Solve the following problems.

- 1.** Renaldo, Mitch, and Hana make their own pizzas. All three pizzas are the same size.
 - a.** Renaldo cut his pizza into 3 equal pieces and ate 2 pieces. What fraction of the pizza did he eat? _____
 - b.** Mitch cut his pizza into 8 equal pieces and ate 5 pieces. What fraction of the pizza did he eat? _____
 - c.** Hana cut her pizza into 6 equal pieces and ate 3 pieces. What fraction of pizza did she eat? _____
 - d.** Who ate the most pizza? Who ate the least? Show how you found your answers.

- 2.** Each runner in a relay race runs one leg, or $\frac{1}{8}$ kilometer. How many runners will it take to cover the $\frac{3}{4}$ kilometer? Explain your solution.

- 3.** Zachary and Nora are talking about how many hits they got at a baseball game. Zachary hit the ball 3 times out of 10 times at bat. Nora hit the ball 4 times out of 12 times at bat. Who is a better hitter in this game? Explain how you know.

Fraction and Percent Problems (page 2 of 2)



Solve the following problems.

- 4.** Georgia and Shandra made juice smoothies and poured them equally into 2 glasses that are the same size. Georgia drank 75% of her smoothie. Shandra drank $\frac{5}{6}$ of hers. Who drank more of her smoothie? Explain how you know.

- 5. a.** A class has 32 students. One half of them are in the lunchroom, finishing their lunch. How many students are still in the lunchroom? _____
- b.** At the same time, $\frac{1}{4}$ of the students are playing basketball. How many students are playing basketball? _____
- c.** At the same time, $12\frac{1}{2}\%$ of the students are helping in the Snack Shack. How many students are helping in the Snack Shack? _____
- d.** The rest of the students in the class are working on a project in the classroom. What fraction of the class is in the classroom? Explain or show how you know.



Addition Problems

Solve each problem below. Use clear and concise notation to show how you solved each problem.

NOTE Students practice solving multidigit addition problems.

SMH 8-9

1.
$$\begin{array}{r} 5,531 \\ +2,487 \\ \hline \end{array}$$

2. $4,485 + 6,223 = \underline{\hspace{2cm}}$

3. $13,416 + 772 = \underline{\hspace{2cm}}$

4.
$$\begin{array}{r} 31,379 \\ +48,013 \\ \hline \end{array}$$



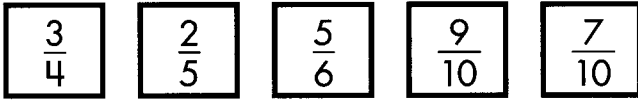
In Between Problems

Hana and Martin are working together to play a perfect game of *In Between* in which they place all of the cards. They have each played one card. Write Hana's and Martin's fractions in the blank cards in the game to show how they can all fit.

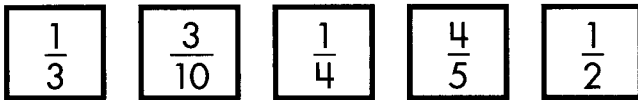
NOTE Students have been comparing fractions by playing "In Between." In this homework, they try to place all the cards in a round of this game.

SMH 50–51, G10

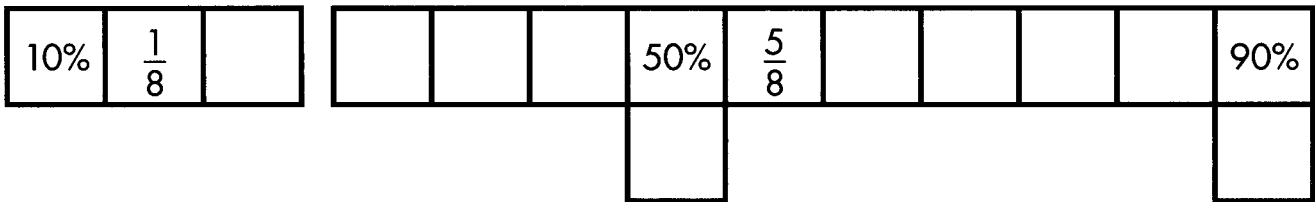
Hana's cards:



Martin's cards:



Game:

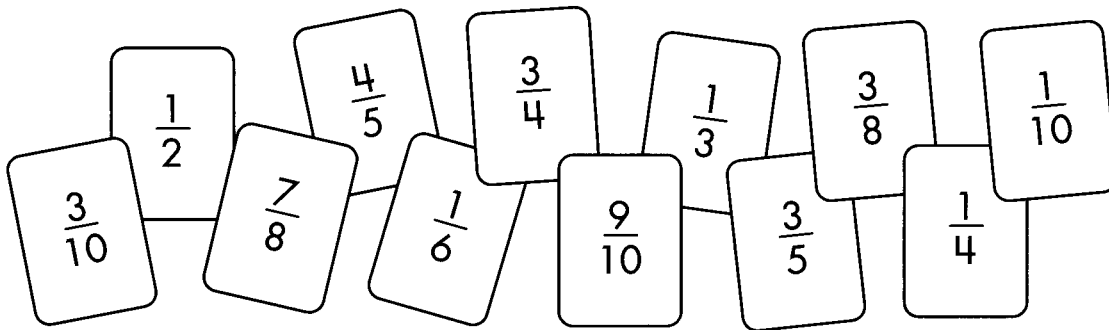




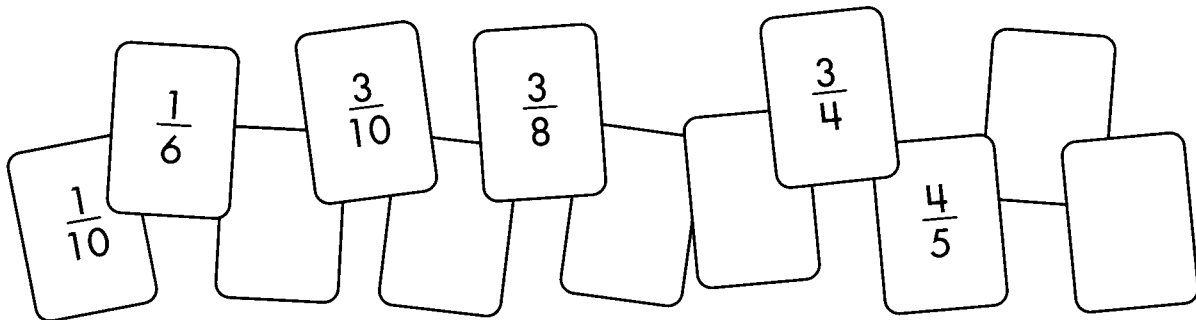
Ordering Fractions (page 1 of 2)

NOTE Students practice comparing and ordering fractions.

SMH 50-51

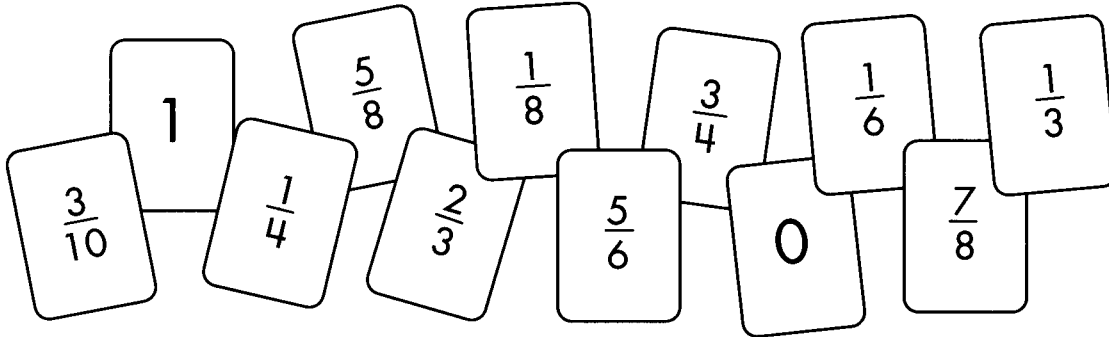


1. Write the above fractions in order.
Some are done for you.

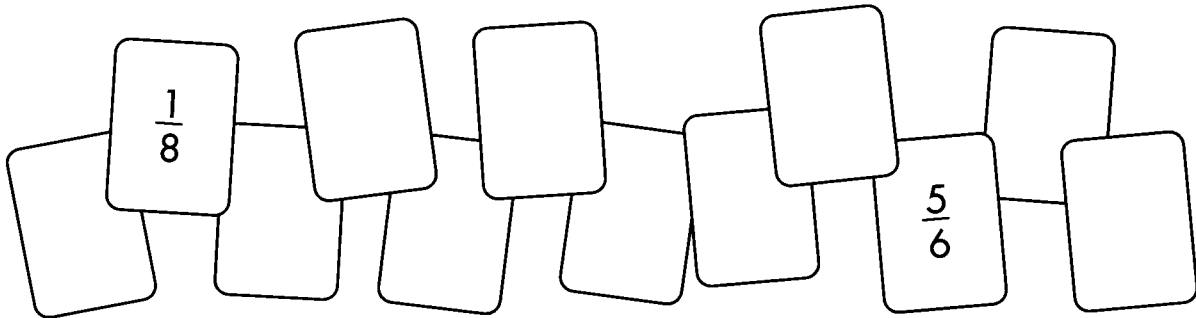




Ordering Fractions (page 2 of 2)



2. Write the above fractions in order.
Some are done for you.



True or False?



Solve the following problems.

Decide whether these statements are true or false.

Circle TRUE or FALSE. Explain your reasoning.

Remember: $>$ means greater than: $3 > 2$

$<$ means less than: $2 < 3$

1. $\frac{2}{3}$ of 60 $>$ $\frac{1}{3}$ of 120 TRUE FALSE

2. $\frac{1}{4}$ of 32 = $\frac{1}{2}$ of 16 TRUE FALSE

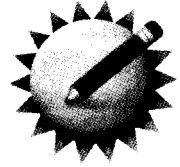
3. 75% of 100 $<$ 75% of 120 TRUE FALSE

Name _____

Date _____

What's That Portion?

Daily Practice



Subtraction Problems

Solve each problem below. Use clear and concise notation to show how you solved each problem.

NOTE Students practice solving multidigit subtraction problems.

SMH 10-13

1.
$$\begin{array}{r} 7,348 \\ - 6,552 \\ \hline \end{array}$$

2. $36,814 - 23,653 = \underline{\hspace{2cm}}$

3. $8,376 + \underline{\hspace{2cm}} = 45,791$

4.
$$\begin{array}{r} 10,000 \\ - 3,671 \\ \hline \end{array}$$



More *In Between* Problems

Janet and Deon are working together to play a perfect game of *In Between* in which they place all of the cards. They have each played one card. Write Janet's and Deon's fractions in the blank cards in the game to show how they can all fit.

NOTE Students have been comparing fractions by playing "In Between". In this homework, they try to place all the cards in a round of this game.

SMH 50–51, G10

Janet's cards:

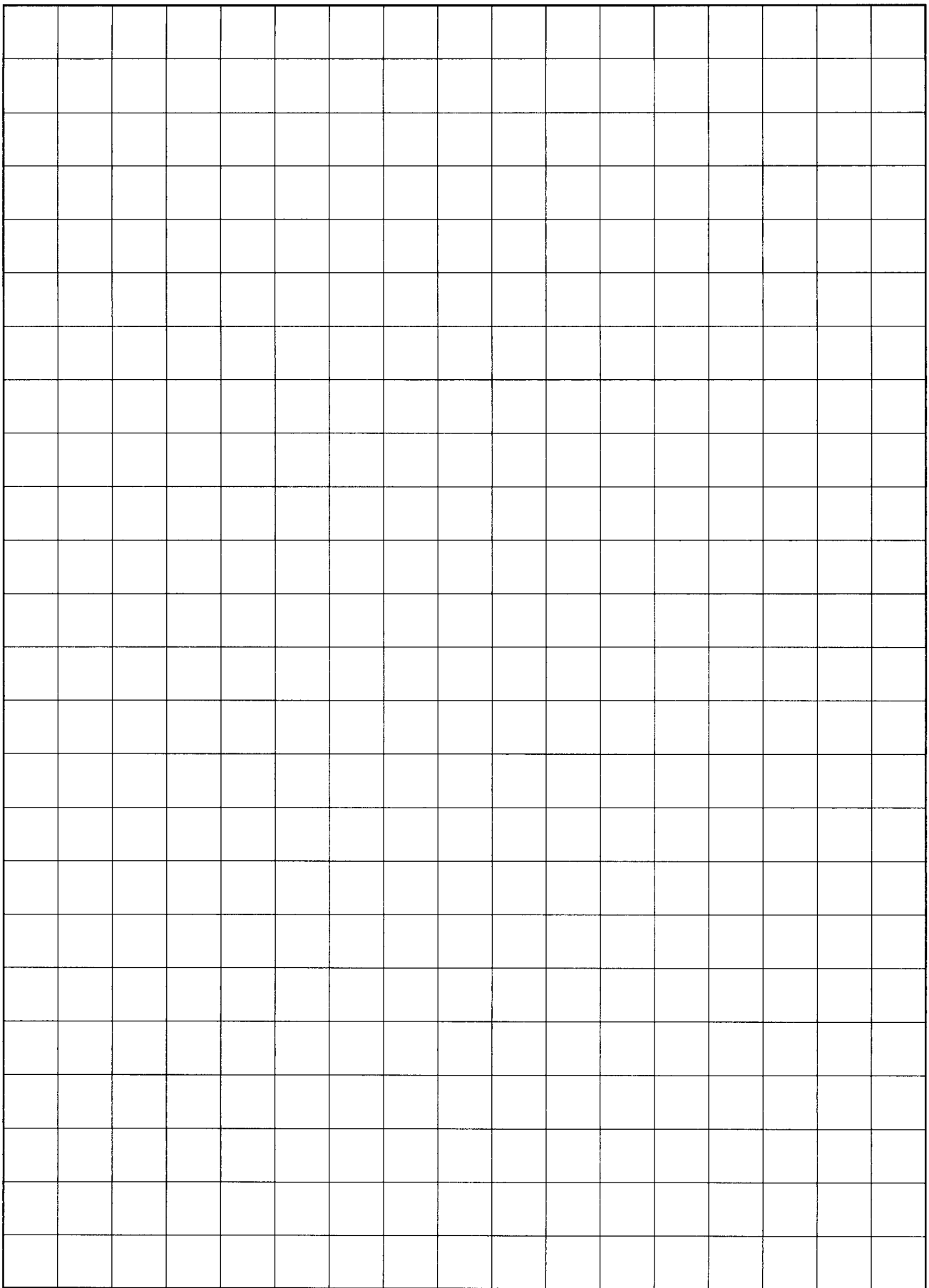
$\frac{3}{8}$	$\frac{5}{6}$	$\frac{2}{3}$	$\frac{7}{10}$	$\frac{3}{10}$
---------------	---------------	---------------	----------------	----------------

Deon's cards:

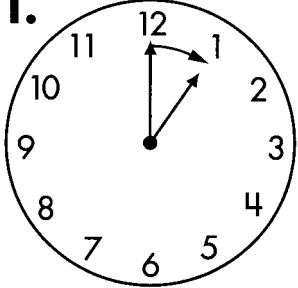
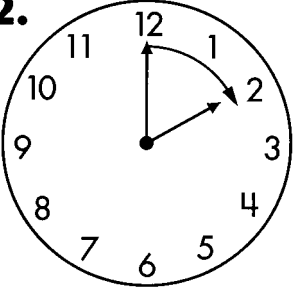
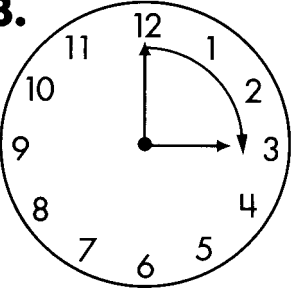
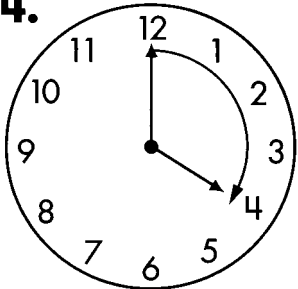
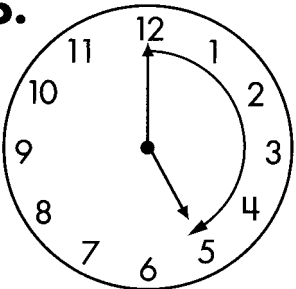
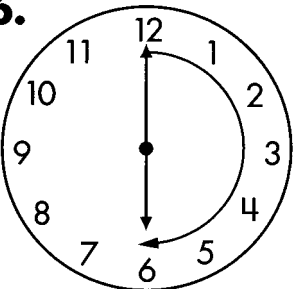
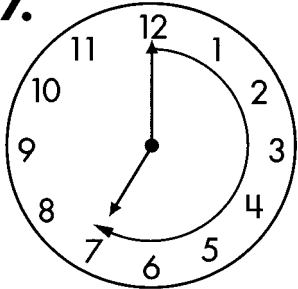
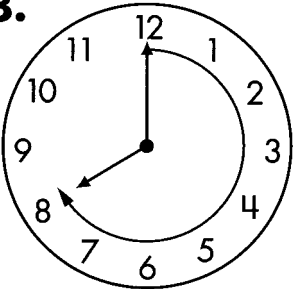
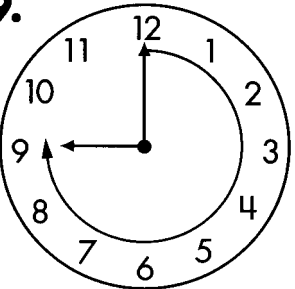
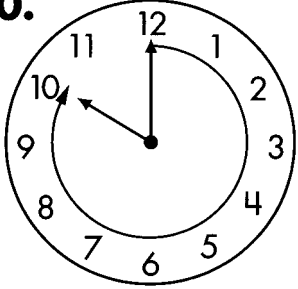
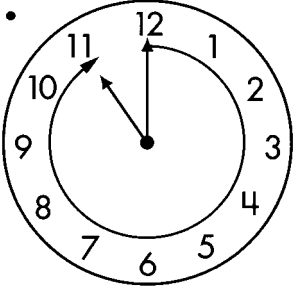
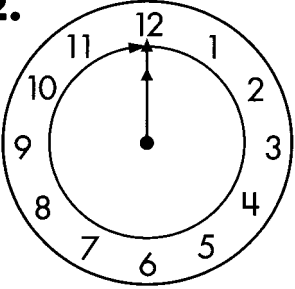
$\frac{7}{8}$	$\frac{1}{3}$	$\frac{4}{5}$	$\frac{1}{4}$	$\frac{1}{5}$
---------------	---------------	---------------	---------------	---------------

Game:

10%	$\frac{1}{6}$						50%	$\frac{3}{5}$						90%
-----	---------------	--	--	--	--	--	-----	---------------	--	--	--	--	--	-----



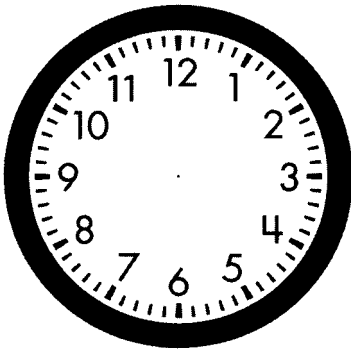
Clock Fractions

1. 	2. 	3. 
4. 	5. 	6. 
7. 	8. 	9. 
10. 	11. 	12. 

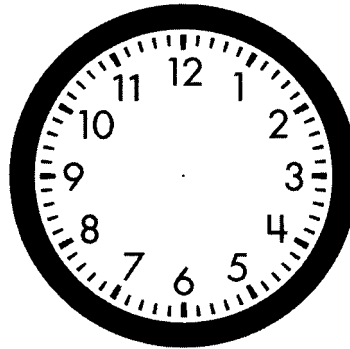
Clock Fractions Addition Problems (page 1 of 2)

For each fraction addition problem, show your work on the clock face. Record your strategy for solving the problem.

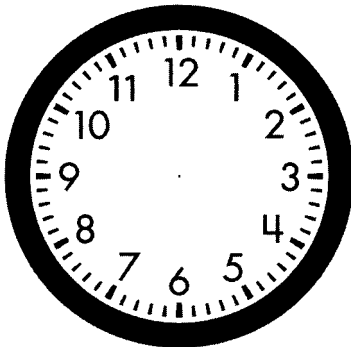
1. $\frac{1}{4} + \frac{1}{2} =$ _____



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



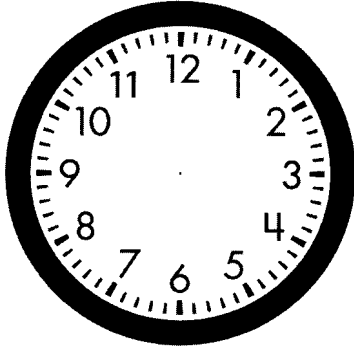
3. $\frac{3}{4} + \frac{1}{3} =$ _____



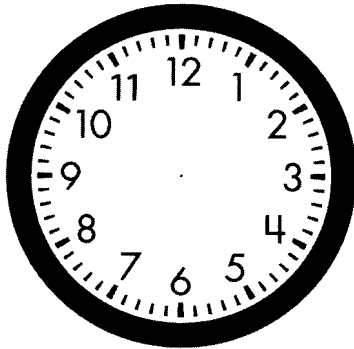
Clock Fractions Addition Problems (page 2 of 2)

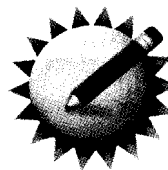
Make up your own fraction addition equations for Problems 4 and 5.

4. _____ + _____ = _____



5. _____ + _____ = _____





True or False?

Solve the following problems.

NOTE Students find fractional parts and percents of a quantity.

SMH 40-41

Decide whether these statements are true or false.
Circle TRUE or FALSE. Explain your reasoning.

Remember: $>$ means greater than: $3 > 2$
 $<$ means less than: $2 < 3$

1. $\frac{2}{5}$ of 50 = $\frac{1}{5}$ of 100 TRUE FALSE

2. $\frac{1}{4}$ of 200 $>$ $\frac{1}{2}$ of 100 TRUE FALSE

3. $12\frac{1}{2}\%$ of 800 $<$ 25% of 400 TRUE FALSE



Comparing Fractions

Choose two pairs of fractions from the following list. Use pictures, numbers, and/or words to find two ways to show which fraction is greater and to explain how you know.

NOTE Students compare fractions to determine which one is greater and explain how they know.

SMH 50-51

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

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

$\frac{5}{8}$ and $\frac{7}{10}$

$\frac{3}{2}$ and $\frac{4}{3}$

$\frac{9}{5}$ and $\frac{7}{4}$

$\frac{2}{3}$ and $\frac{5}{6}$

$\frac{1}{8}$ and $\frac{2}{10}$

$\frac{3}{4}$ and $\frac{4}{5}$

Pair 1: _____ and _____

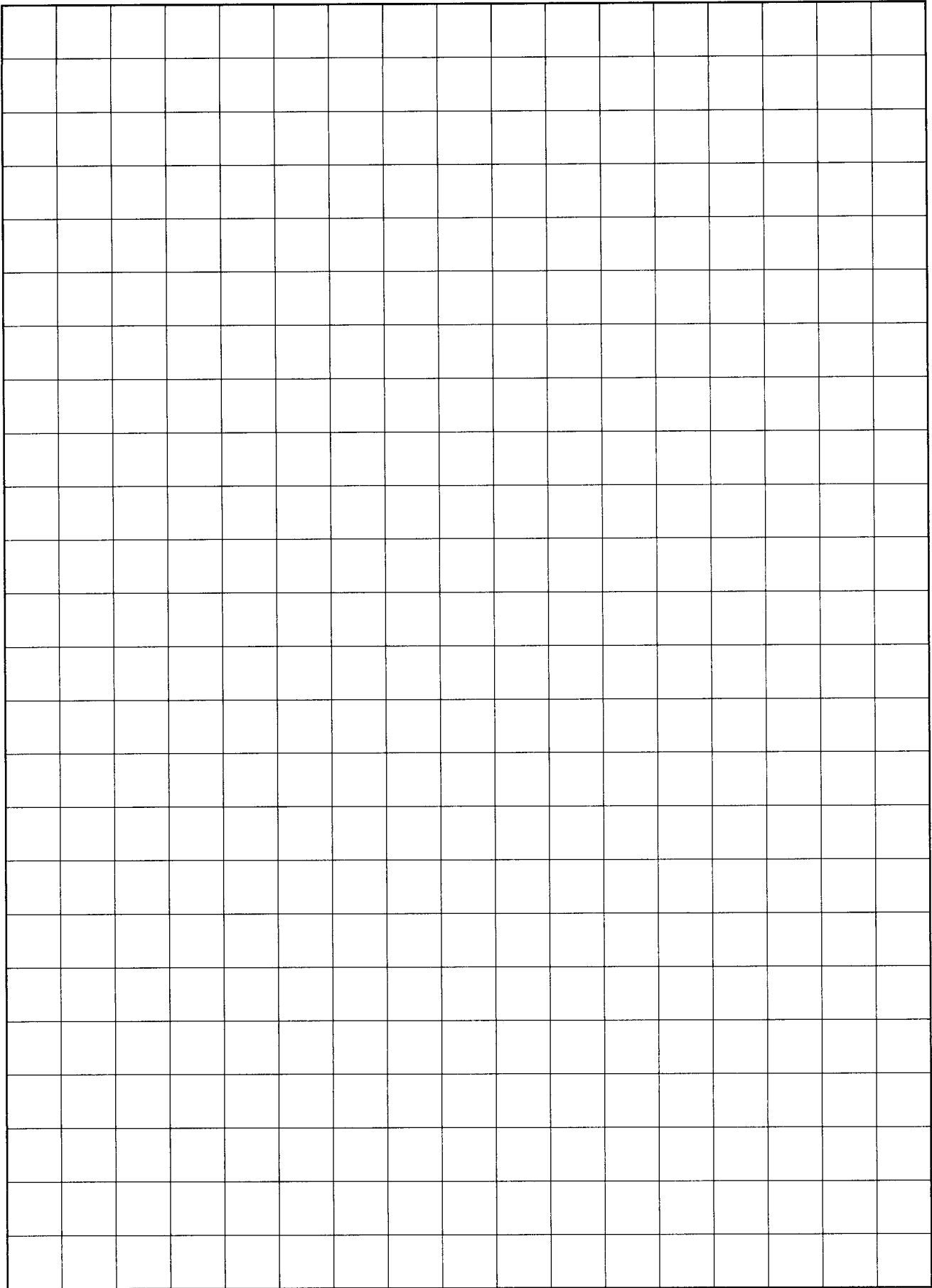
1.

2.

Pair 2: _____ and _____

1.

2.





Concert Tickets

Solve each of the following problems. Show your work clearly. Be sure to answer the question posed by the story.

NOTE Students practice solving subtraction problems in story contexts.

SMH 10-13

- 1. a.** The Composites are playing a concert at the Sunshine Stadium. At 10:00 A.M., 56,000 tickets went on sale. After 20 minutes of ticket sales, 18,493 tickets remained. How many were sold in the first 20 minutes?
- b.** After 45 minutes, only 3,728 tickets were left. Of the 56,000 original tickets, how many were sold after 45 minutes?
- 2. a.** The Square Roots are playing a concert at the Palm Dome. At noon, 64,500 concert tickets went on sale. After an hour, 27,483 tickets were sold. How many remain?
- b.** After two hours, 43,893 tickets were sold. Of the original 64,500 original tickets, how many remain?



Roll Around the Clock Problems

Nora and Alexander are playing *Roll Around the Clock*. For each round, find the sum of their rolls and circle who wins the point. If it is a tie, write "tie" next to the round.

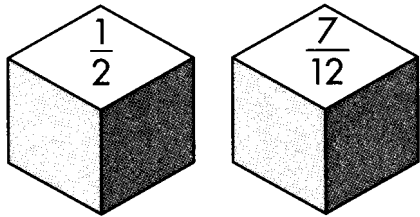
NOTE Using the distance around a clock as a model, students practice adding fractions with related denominators.

SMH 52-53,
G12-G13

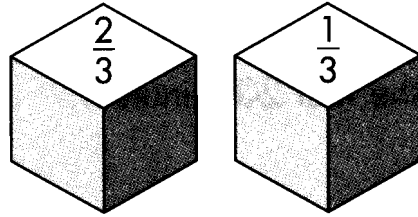
Nora:

Alexander:

Round 1:

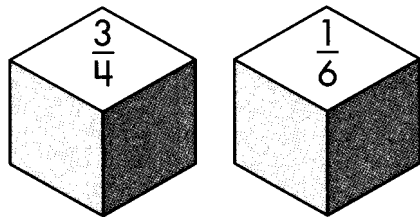


sum: _____

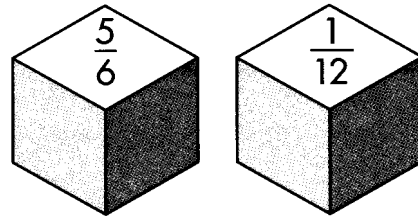


sum: _____

Round 2:

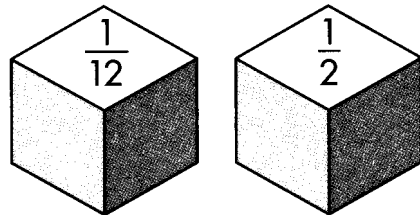


sum: _____

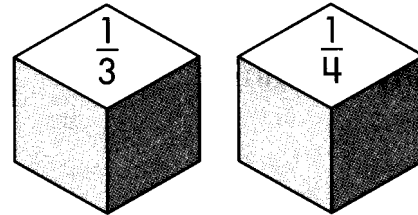


sum: _____

Round 3:

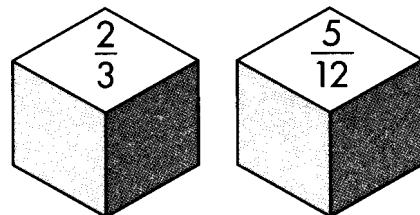


sum: _____

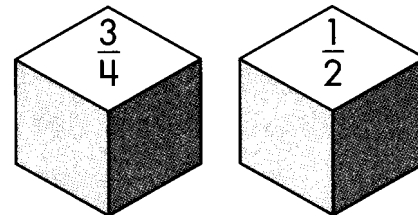


sum: _____

Round 4:



sum: _____

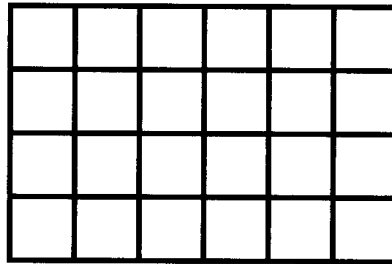
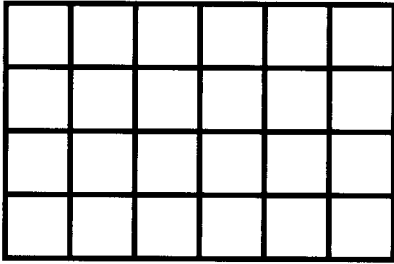


sum: _____

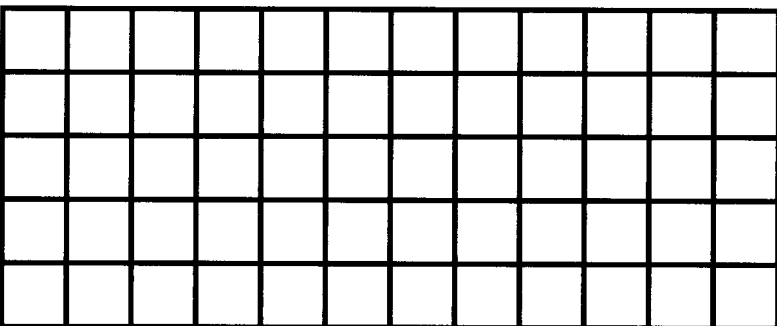
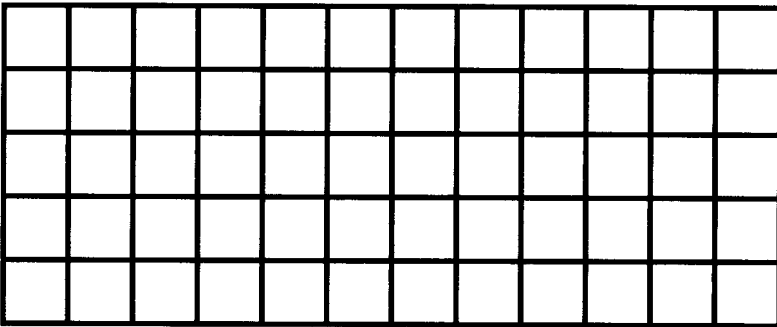
Using Rectangles to Add Fractions

Choose either the 4×6 or 5×12 rectangles to show how to solve $\frac{1}{3} + \frac{5}{12} = \underline{\hspace{2cm}}$.

4×6 Rectangles



5×12 Rectangles



Adding and Subtracting Fractions



Solve each problem below. Explain how you found the answer.

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

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

3. A pizza is cut into 12 equal pieces. Alexander eats $\frac{1}{3}$ of the pizza, Rachel eats $\frac{1}{4}$ of the pizza, and Charles eats $\frac{1}{12}$. What fraction of pizza did they have left?

4. Georgia is a carpenter, and she has a piece of wood that is 10 feet long. She uses $\frac{1}{2}$ of the wood for a book shelf and $\frac{1}{4}$ of the wood for kitchen shelf. How many feet of wood are left? What fraction of the whole piece is that?

5. $\frac{3}{12} + \frac{1}{2} + \frac{2}{3} =$ _____

Roll Around the Clock Equations

Choose a round from the *Roll Around the Clock* game in which you rolled the fraction cubes only **twice** during your turn, and record it as an addition equation.

For example: $1\frac{1}{12} = \frac{1}{3} + \frac{3}{4}$ $\frac{5}{12} + \frac{7}{12} = 1$

1. The fractions I rolled were: _____.

Addition equation: _____

2. The fractions I rolled were: _____.

Addition equation: _____

3. The fractions I rolled were: _____.

Addition equation: _____

Choose a round from the *Roll Around the Clock* game in which you rolled the fraction cubes **more than two times**, and record it as an addition equation.

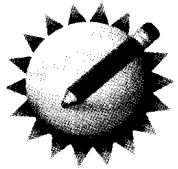
For example: $1 = \frac{2}{3} + \frac{1}{4} + \frac{1}{12}$ $\frac{7}{12} + \frac{1}{3} + \frac{1}{6} = 1\frac{1}{12}$

4. The fractions I rolled were: _____.

Addition equation: _____

5. The fractions I rolled were: _____.

Addition equation: _____



Which Is Closer to 1? Part 1

Find the two totals. Then circle the one that is closer to 1.
Show how you figured out the sums.

NOTE Students add fractions and compare the sums.

SMH 50-53

1. $\frac{1}{2} + \frac{7}{12} =$ _____ $\frac{1}{6} + \frac{2}{3} =$ _____

2. $\frac{1}{4} + \frac{1}{3} =$ _____ $\frac{1}{6} + \frac{1}{2} =$ _____

Ongoing Review

3. Samantha won 8 out of the 10 tennis matches she played. What percentage of the games did she win?
- A.** 8% **B.** 80% **C.** $\frac{8}{10}$ % **D.** 10%



Practice Adding Fractions

Solve the problems below, explaining your work.

NOTE Students use different models (including the clock or rectangles) and their understanding of equivalent fractions to add fractions.

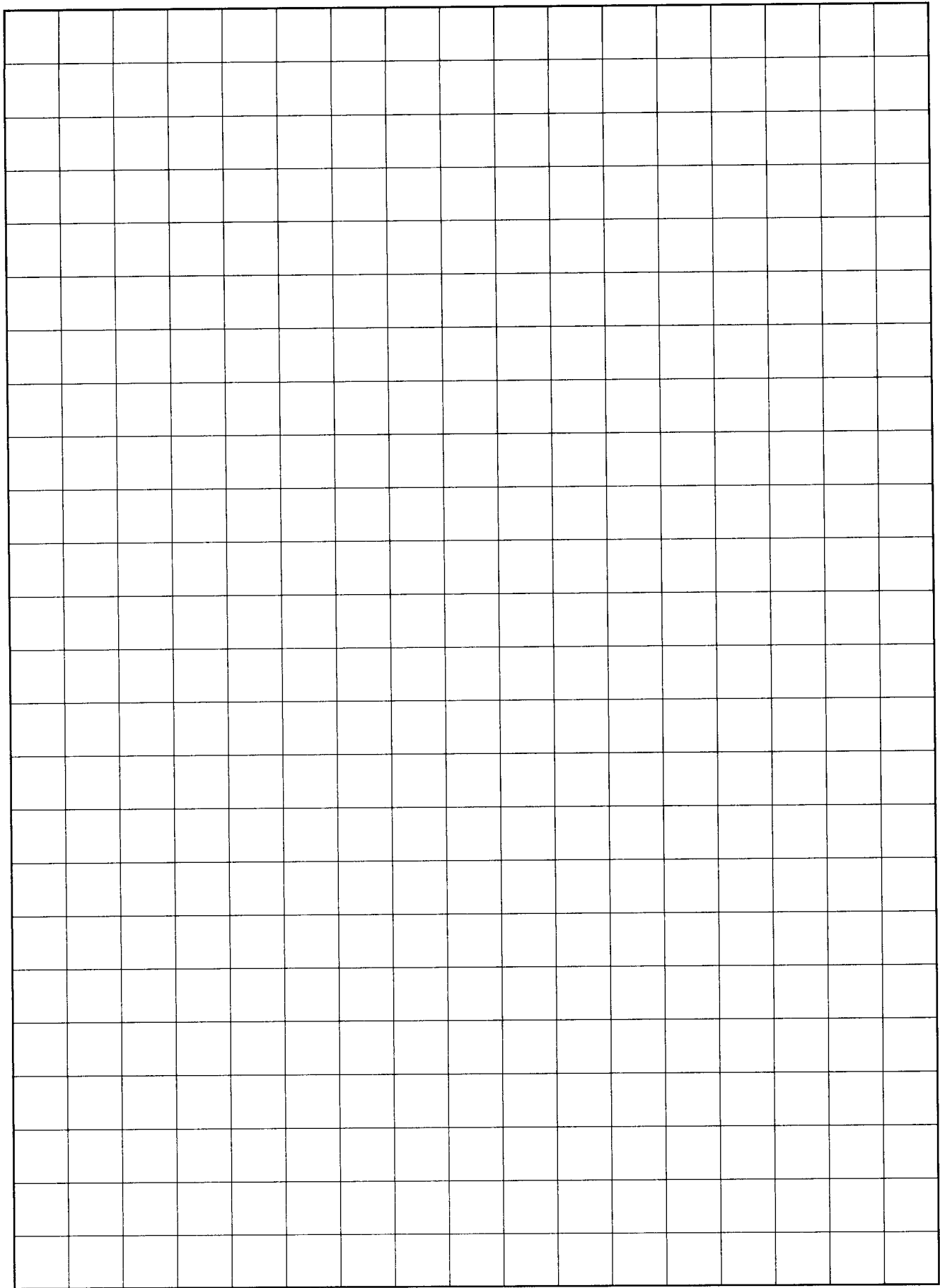
SMH 52–53

Alexander, Rachel, and Olivia had a pizza party. There was a pepperoni, a vegetarian, and a cheese pizza. Each pizza was the same size.

1. Alexander ate $\frac{1}{6}$ of the pepperoni pizza and $\frac{5}{12}$ of the cheese pizza. How much of a pizza did he eat?
2. Rachel ate $\frac{1}{8}$ of the vegetarian pizza and $\frac{1}{4}$ of the cheese pizza. How much of a pizza did she eat?
3. Olivia ate $\frac{1}{6}$ of the pepperoni pizza, $\frac{1}{3}$ of the vegetarian pizza, and $\frac{1}{6}$ of the cheese pizza. How much of a pizza did she eat?

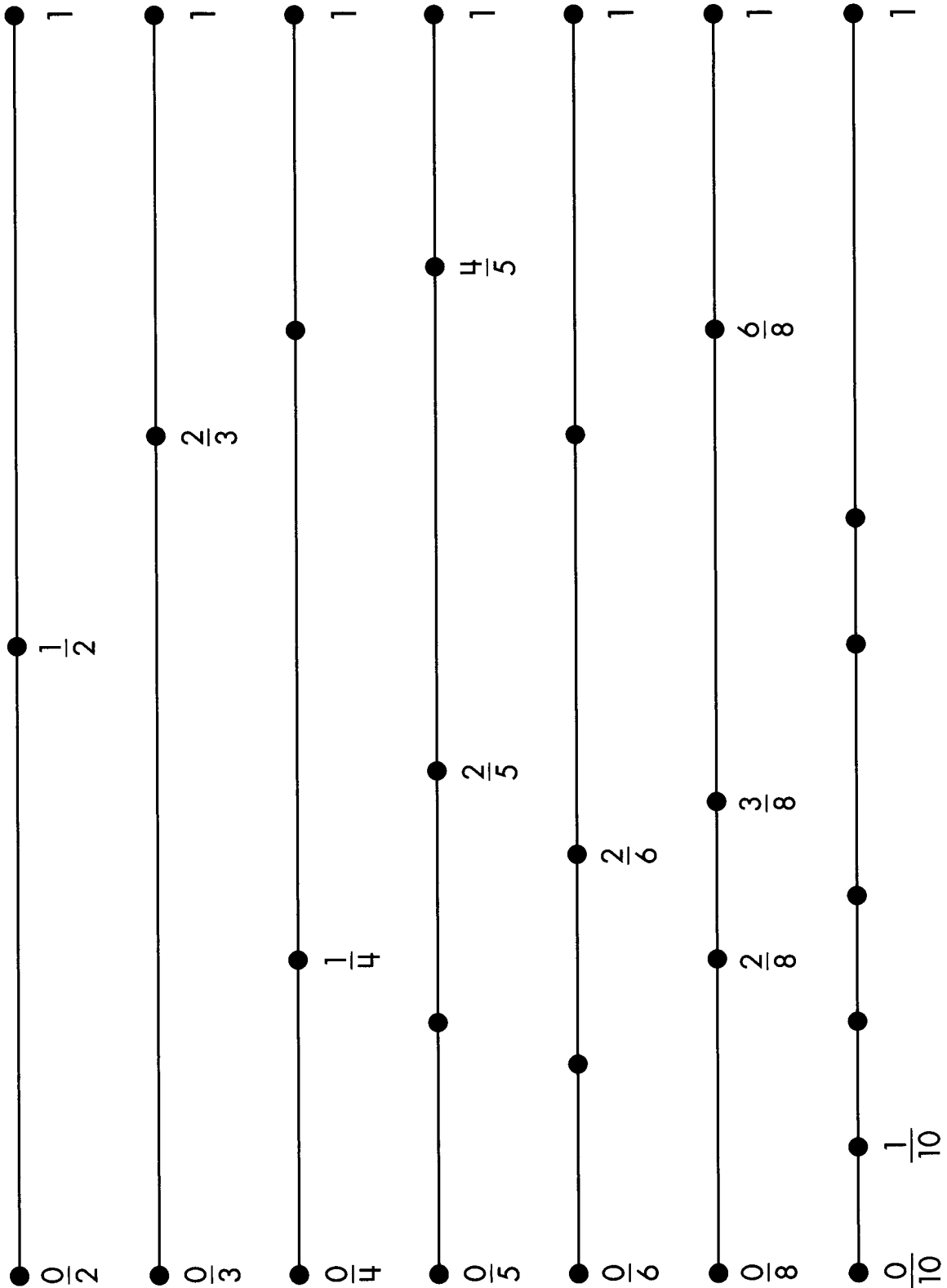
4. $\frac{1}{5} + \frac{3}{10} = \underline{\hspace{2cm}}$

5. $\frac{2}{3} + \frac{5}{6} = \underline{\hspace{2cm}}$

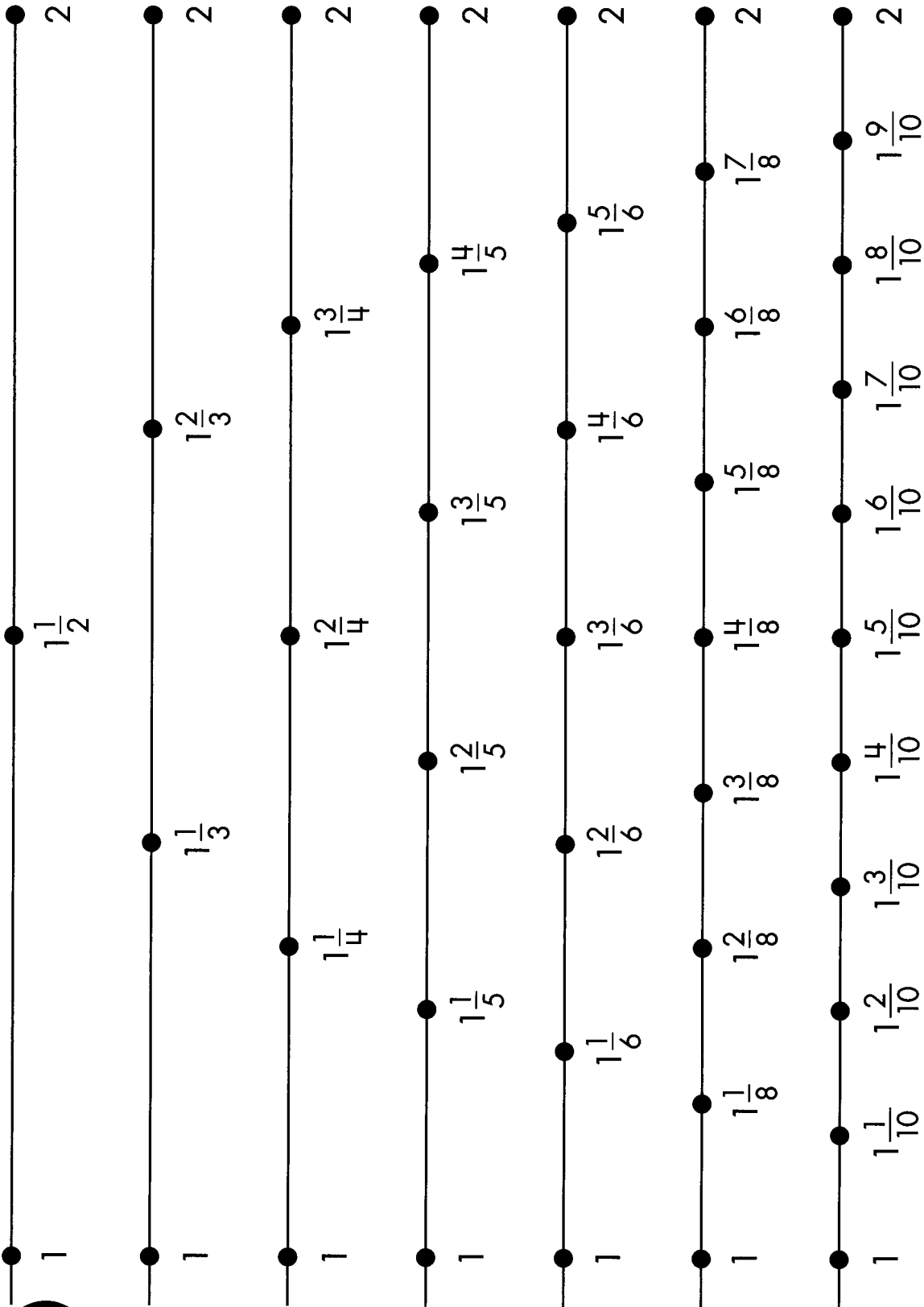


What's That Portion?

Fraction Tracks (page 1 of 2)



Fraction Tracks (page 2 of 2)





Reading Challenge

Solve each of the following problems. Show your work clearly. Be sure to answer the question posed by the story.

NOTE Students practice solving subtraction problems in story contexts.

SMH 10–13

1. A city library held a reading challenge to see how many books the students could read in June, July, and August. They hoped that the students would read a total of 20,000 books. By the end of June, the students had read 6,837 books. How many more books did they need to read to reach 20,000 books?
2. By the end of July, the students had read 14,288 books. How many more books did they need to read in August in order to read 20,000 altogether?
3. In all, the students read 22,681 books this summer. Next year the library will increase the reading challenge goal to 25,000 books. How many more books will that be, compared with the total they read this summer?
4. Last summer, students in the city read 17,589 books. If they read 22,681 this summer, how many more books did they read?



NOTE Students add fractions and compare the sums.

SMH 50-53

Which Is Closer to 1?

Part 2

Find the two totals. Then circle the one that is closer to 1. Show how you figured out the sums.

1. $\frac{5}{10} + \frac{2}{5} =$ _____

$\frac{4}{12} + \frac{2}{4} =$ _____

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

$\frac{2}{8} + \frac{2}{4} =$ _____

Ongoing Review

3. Felix loves to play checkers. He won 150 out of the last 200 games he played. What percentage of the games did he win? Circle the answer. Show how you figured it out.

A. 150%

B. 100%

C. 75%

D. 50%



More Roll Around the Clock Problems

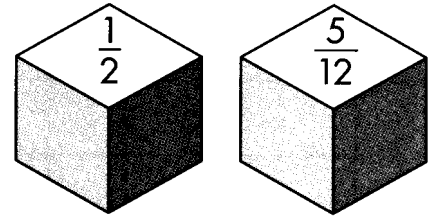
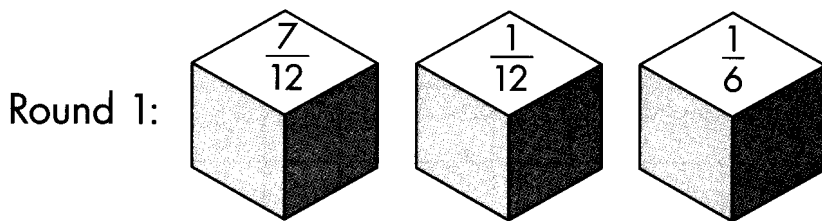
Renaldo and Hana are playing *Roll Around the Clock*. For each round, find the sum of their rolls and circle who wins the point. If it's a tie, write "tie" next to the round.

NOTE Using the distance around a clock as a model, students practice adding fractions with related denominators.

SMH 52–53, G12–G13

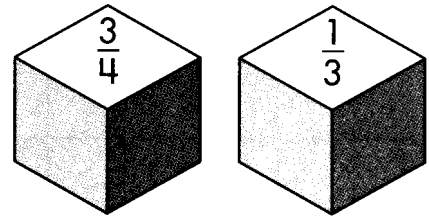
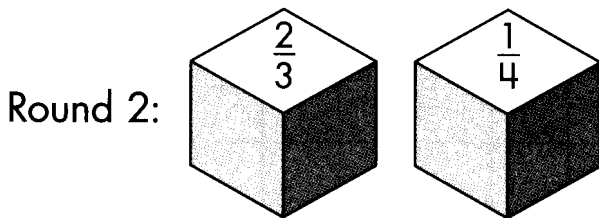
Renaldo:

Hana:



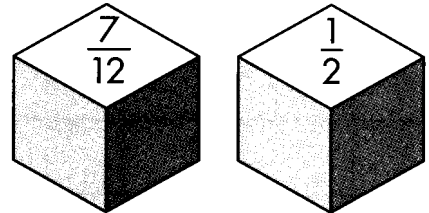
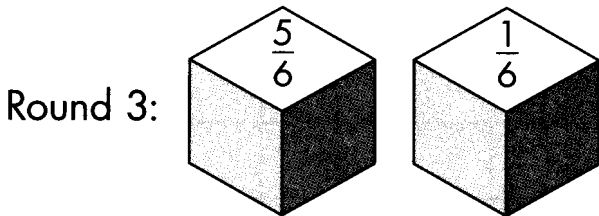
sum: _____

sum: _____



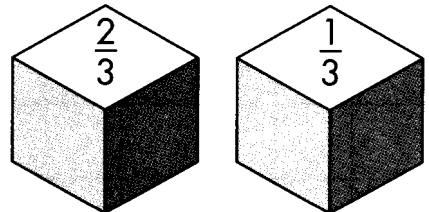
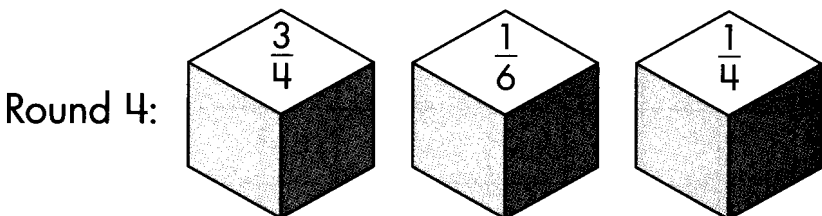
sum: _____

sum: _____



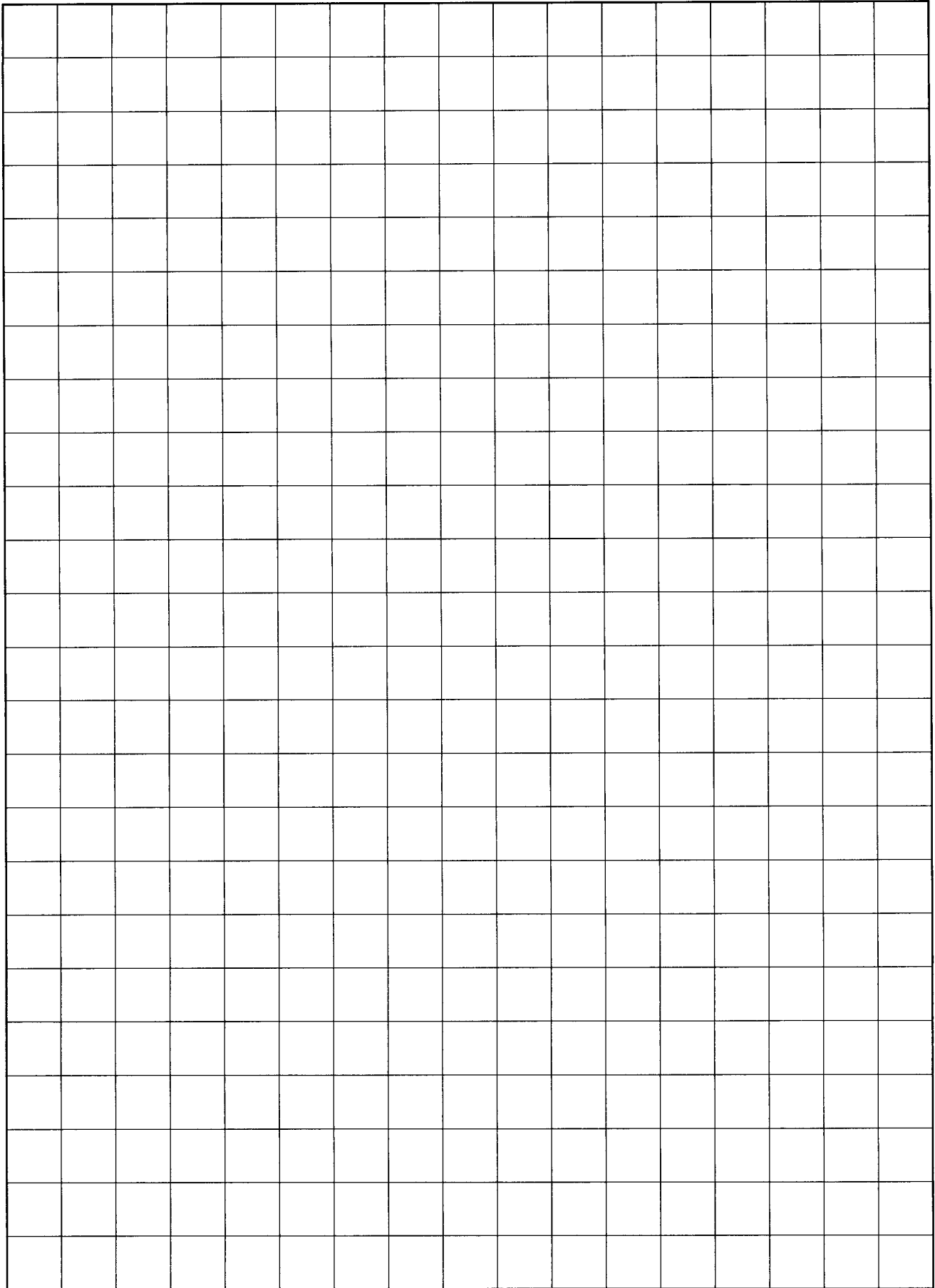
sum: _____

sum: _____



sum: _____

sum: _____





Tallest Mountains

This is a table of some of the world's tallest mountains. Use this table to answer the questions below. Show your work clearly.

NOTE Students practice solving addition and subtraction problems in story contexts.

SMH 8-9, 10-13

Mountain	Continent	Height (in feet)
Mount Everest	Asia	29,035
Aconcagua	South America	22,831
Mount McKinley	North America	20,320
Mount Kilimanjaro	Africa	19,563
Mount Elbrus	Europe	18,481
Vinson Massif	Antarctica	16,066
Mount Kosciuszko	Australia (mainland)	7,310

- How much taller is Mount Everest than Aconcagua?
- How much taller is Mount McKinley than Mount Kosciuszko?
- How much taller is Mount Kilimanjaro than Vinson Massif?
- Which mountain is 1,839 feet taller than Mount Elbrus?



Equivalents

List at least 5 equivalent fractions for each fraction below.

NOTE Students find equivalent fractions.

SMH 44

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

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

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

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

Fraction Track Equations

Record moves that involve **more than one track** from the rounds of the *Fraction Track* game you are playing.

Write your moves as addition problems.

For example: $\boxed{\frac{7}{8}}$ $\frac{7}{8} = \frac{1}{2} + \frac{1}{4} + \frac{1}{8}$ $\boxed{\frac{3}{4}}$ $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$

1. The fraction on my card was _____.

Addition equation: _____

2. The fraction on my card was _____.

Addition equation: _____

3. The fraction on my card was _____.

Addition equation: _____

Record moves that involve moves on **two tracks** from the rounds of the *Fraction Track* game you are playing.

Write your moves as addition and subtraction problems.

For example: $\boxed{\frac{5}{6}}$ $\frac{5}{6} = \frac{1}{2} + \frac{1}{3}$ $\frac{5}{6} - \frac{1}{3} = \frac{1}{2}$

4. The fraction on my card was _____.

Addition equation: _____

Subtraction equation: _____

5. The fraction on my card was _____.

Addition equation: _____

Subtraction equation: _____

Fraction Problems

 (page 1 of 3) 

Solve these problems. Show or explain how you solved them.

1. Shandra and Tyler made two loaves of bread. On Monday, they ate $\frac{1}{2}$ of one loaf. On Tuesday, they ate $\frac{1}{3}$ of one loaf. How much bread was left?

2. $\frac{3}{8} + \frac{1}{4} + \frac{4}{4} =$ _____

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

Fraction Problems (page 2 of 3)



Solve these problems. Show or explain how you solved them.

4. There are 6 brownies on a plate. Margaret ate $1\frac{1}{2}$ brownies. Charles ate $2\frac{1}{4}$ brownies. Tyler ate $1\frac{3}{4}$ brownies. How many brownies are left on the plate?

5. $\frac{3}{4} + \frac{9}{6} = \underline{\hspace{2cm}}$

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

Fraction Problems (page 3 of 3)



Solve these problems. Show or explain how you solved them.

7. Is this equation true or false? $\frac{7}{8} + \frac{7}{8} = 1\frac{3}{4}$
Explain how you know.

8. Is this equation true or false? $\frac{4}{4} - \frac{2}{2} = \frac{3}{3}$
Explain how you know.

9. Cecilia is wrapping presents for her sister's birthday. She has 10 feet of ribbon. She uses $2\frac{1}{2}$ feet to wrap one present, $3\frac{1}{3}$ feet to wrap another present, and $1\frac{3}{4}$ feet to wrap the third present. If she needs 2 feet for the last present, does she have enough ribbon left?



Less Than, Greater Than, or Equal To? Part 1

Choose one of these symbols to fill in the blank to show whether the two expressions are equal or whether one is greater than the other. Explain your thinking.

NOTE Students decide whether two expressions that involve addition and subtraction of fractions and mixed numbers are equal or whether one is greater than the other. Students may solve for the sum or difference of each expression, or they may be able to reason about the relationships of the fractions without actually solving. For example, in Problem 3, because $\frac{12}{8} = \frac{3}{2}$ and less is subtracted from $\frac{12}{8}$ than from $\frac{9}{6}$, the first expression must be greater than the second.

SMH 45, 50–53

= equal

$$4 + 3 = 3 + 4$$

< less than

$$5 + 7 < 7 + 7$$

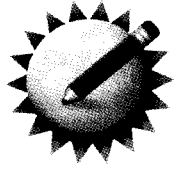
> greater than

$$6 + 6 > 5 + 5$$

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

2. $\frac{10}{12} + 1\frac{1}{2}$ _____ $\frac{3}{4} + 1\frac{1}{4}$

3. $\frac{12}{8} - \frac{1}{6}$ _____ $\frac{9}{6} - \frac{1}{2}$



Missing Digits

Fill in the missing digits in each problem.
Show how you found the missing digits.

NOTE Students practice solving addition and subtraction problems.

SMH 8-9, 10-13

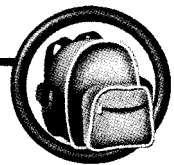
$$\begin{array}{r}
 1 \quad 2,000 \\
 - \quad _,9__4 \\
 \hline
 5,056
 \end{array}$$

$$\begin{array}{r}
 33__ \\
 5__7 \\
 + __48 \\
 \hline
 1,300
 \end{array}$$

Can you find four digits to complete these problems?
Is it possible or impossible? Explain your thinking.

3. $9,724 + \underline{\hspace{2cm}} = 20,000$

4. $12,000 + \underline{\hspace{2cm}} = 2,487$



Moves on the *Fraction Track*

Imagine that you are playing the *Fraction Track* game with the board that goes from 0 to 2. All your markers are on 0. Find different combinations of ways you can move on 2 tracks, 3 tracks, or 4 tracks.

NOTE Students have been playing a game in which they find different sums that equal a given fraction.

SMH 52–53

For example, if you draw $\frac{7}{8}$, you can move:

On two tracks: $\frac{1}{2} + \frac{3}{8}$

On three tracks: $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$

On four tracks: $\frac{1}{3} + \frac{1}{6} + \frac{1}{4} + \frac{1}{8}$

Find some different ways you could move if you got these fraction cards.

- Your fraction card is $\frac{10}{10}$. What are some ways you could move?

On two tracks:

On three tracks:

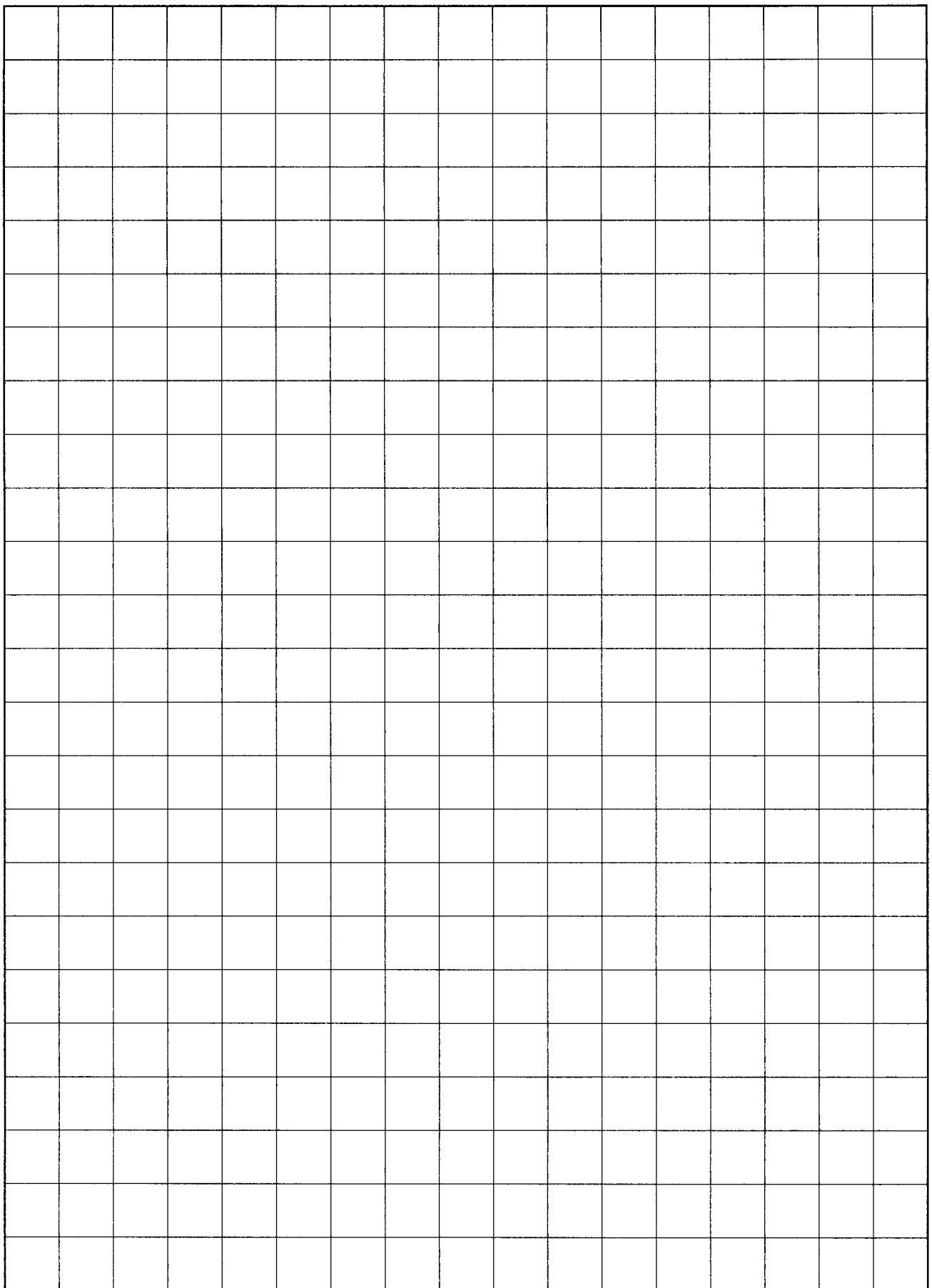
On four tracks:

- Your fraction card is $\frac{12}{8}$. What are some ways you could move?

On two tracks:

On three tracks:

On four tracks:





Less Than, Greater Than, or Equal To?

Part 2

Choose one of these symbols to put in the blank to show whether the two expressions are equal or whether one is greater than the other. Explain your thinking.

NOTE Students decide whether two expressions that involve addition and subtraction of fractions and mixed numbers are equal or whether one is greater than the other. Students may solve for the sum or difference of each expression, or they may be able to reason about the relationships of the fractions without actually solving.

SMH 45, 50–53

= equal

$$4 + 3 = 3 + 4$$

< less than

$$5 + 7 < 7 + 7$$

> greater than

$$6 + 6 > 5 + 5$$

1. $\frac{3}{6} + \frac{4}{8} + 2$ _____ $1\frac{1}{2} + \frac{5}{10} + 1\frac{1}{4}$

2. $3\frac{3}{4} - \frac{7}{8}$ _____ $3\frac{1}{4} - \frac{6}{8}$

3. $\frac{2}{3} + 1\frac{1}{2} + \frac{6}{10}$ _____ $\frac{15}{10} + \frac{3}{5} + \frac{4}{6}$



More Moves on the Fraction Track

NOTE Students have been playing a game in which they find different sums that equal a given fraction.

SMH 52–53

Suppose that you are playing the *Fraction Track* game with the board that goes from 0 to 2. All your markers are on 0. Find different combinations of ways you can move on 2 tracks, 3 tracks, or 4 tracks.

For example, if you draw $\frac{7}{8}$, you can move:

On two tracks: $\frac{1}{2} + \frac{3}{8}$

On three tracks: $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$

On four tracks: $\frac{1}{3} + \frac{1}{6} + \frac{1}{4} + \frac{1}{8}$

Find some different ways you could move if you got these fraction cards.

1. Your fraction card is $\frac{9}{6}$. What are some ways you could move?

On two tracks:

On three tracks:

On four tracks:

2. Your fraction card is $\frac{12}{10}$. What are some ways you could move?

On two tracks:

On three tracks:

On four tracks:

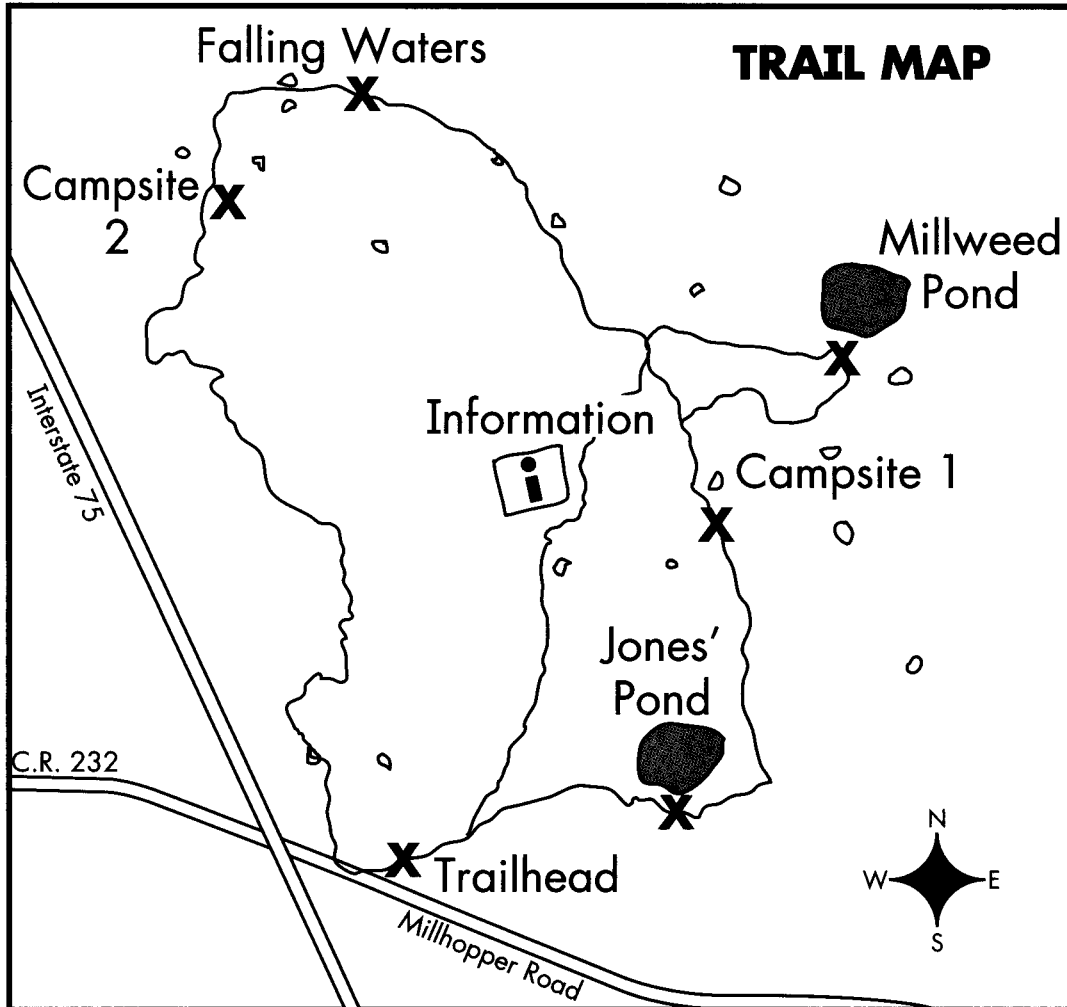


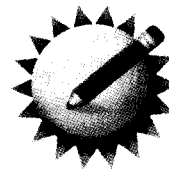
Going the Distance (page 1 of 2)

A scout troop is going on a hiking trip to a nearby state park.

NOTE Students solve real-world problems involving the math content of this unit.

SMH 52-53





Going the Distance (page 2 of 2)

The table shows the distances along different parts of the trail.

Landmarks	Distance in miles	Landmarks	Distance in miles
Trailhead to Jones' Pond	$\frac{3}{5}$	Trailhead to Campsite 2	2
Trailhead to Campsite 1	$1\frac{1}{2}$	Millweed Pond to Falling Waters	$1\frac{1}{4}$
Campsite 1 to Falling Waters	$1\frac{1}{2}$	Campsite 1 to Millweed Pond	$\frac{7}{8}$

The scouts will camp at Campsite 1.

- How far is it from the Trailhead to Campsite 1?
- Some scouts want to swim at Millweed Pond and others want to swim at Jones' Pond.
 - How far is it from Campsite 1 to Jones' Pond?
 - How far is it from Campsite 1 to Millweed Pond?
 - Which pond is closer to Campsite 1?
- The scouts will hike from Campsite 1 to Millweed Pond, and then to Falling Waters where they will have lunch. How long is that hike?
- Some scouts decide to hike back from Falling Waters to Campsite 1 along the shorter route. How much shorter will their hike be than if they go back by way of Millweed Pond?