Name _____   Date/Time _____

Working with Fractions

NCTM Standards 1, 6, 7, 8, 10

1 Label each piece of the bar with a fraction.

| 1 |
$\frac{1}{2}$	
$\frac{1}{3}$	$\frac{1}{3}$	
$\frac{1}{4}$			
$\frac{1}{5}$				
$\frac{1}{6}$					
$\frac{1}{8}$							
$\frac{1}{9}$								

2 Separate this bar into **12** equal pieces. Label each piece.

| $\frac{1}{12}$ | $\frac{1}{12}$ | | | | | | | | | | |

3 Why is the green piece not a fifth of this figure?

_____

_____

_____

Show the fractions on the grids.

4 Draw lines to cut the figure into fourths. Shade **3** fourths.
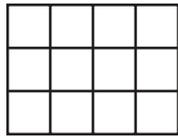
5 Draw lines to cut the figure into fifths. Shade **2** fifths.
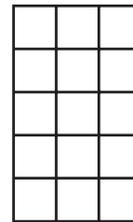
6 Draw lines to cut the figure into fifths. Shade **4** fifths.
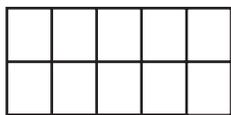
7 Draw lines to cut the figure into fourths. Shade **2** fourths.
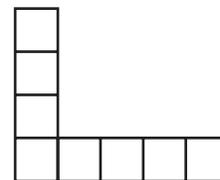
8 Draw lines to cut the figure into sixths. Shade **3** sixths.
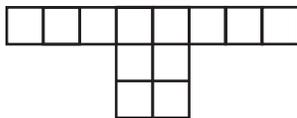
9 Draw lines to cut the figure into fifths. Shade **3** fifths.
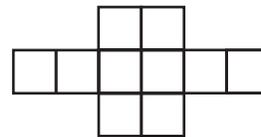
10 **Challenge** **Figure A** was cut from **figure B.** It is one fifth of **figure B.** Draw what **figure B** could look like.

A

B

Name _____ Date/Time _____

Making Equivalent Fractions

NCTM Standards 1, 2, 6, 7, 8, 9, 10

1											

| $\frac{1}{2}$ | | | | | | $\frac{1}{2}$ | | | | | |

| $\frac{1}{3}$ | | | | $\frac{1}{3}$ | | | | $\frac{1}{3}$ | | | |

| $\frac{1}{4}$ | | | $\frac{1}{4}$ | | | $\frac{1}{4}$ | | | $\frac{1}{4}$ | | |

| $\frac{1}{5}$ | | $\frac{1}{5}$ | | $\frac{1}{5}$ | | $\frac{1}{5}$ | | $\frac{1}{5}$ | | | |

| $\frac{1}{6}$ | | $\frac{1}{6}$ | | $\frac{1}{6}$ | | $\frac{1}{6}$ | | $\frac{1}{6}$ | | $\frac{1}{6}$ | |

| $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | | | | |

| $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | | | |

| $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ |
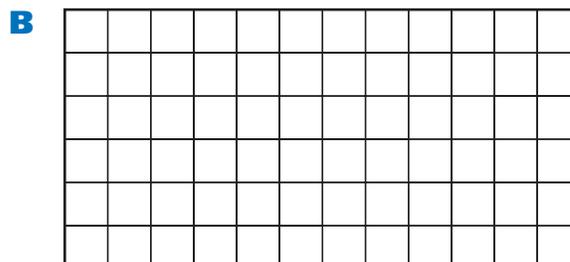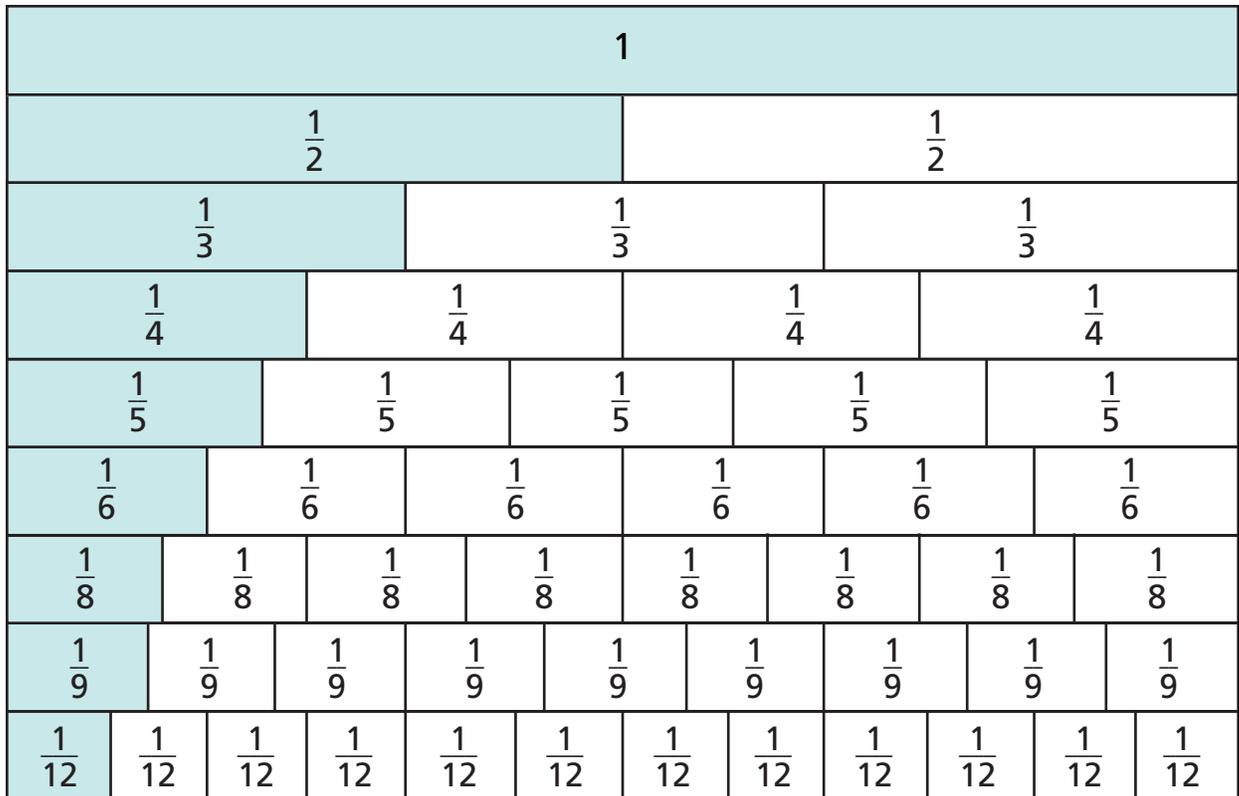
1 The diagram above shows: 1 $\frac{2}{2}$ $\frac{3}{3}$ $\frac{\square}{4}$ $\frac{\square}{6}$ $\frac{\square}{12}$

Some groups of bars are the same as some other groups. Label each fraction piece.

2

$\frac{1}{2}$	
$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{6}$	

The diagram shows:

$\frac{1}{2}$ $\frac{2}{4}$ $\frac{\square}{\square}$

3

$\frac{1}{3}$	
$\frac{1}{6}$	

The diagram shows:

$\frac{\square}{\square}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$

The large diagram shows fraction bars labeled:
1
$\frac{1}{2}$
$\frac{1}{3}$ $\frac{1}{3}$

4

$\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{6}$
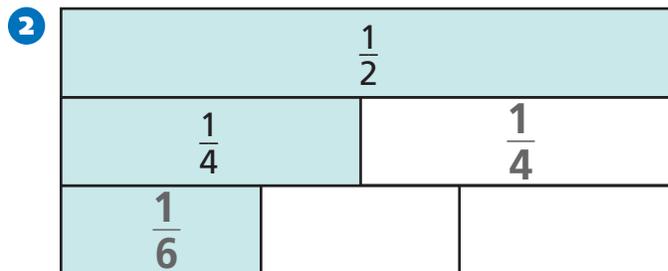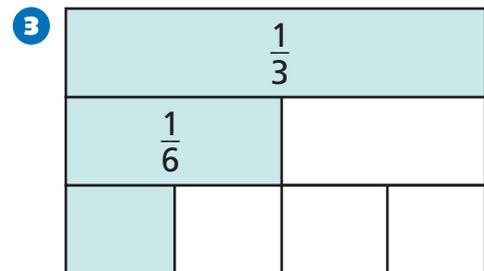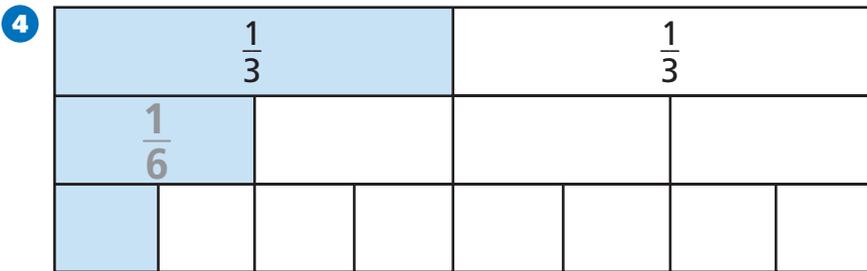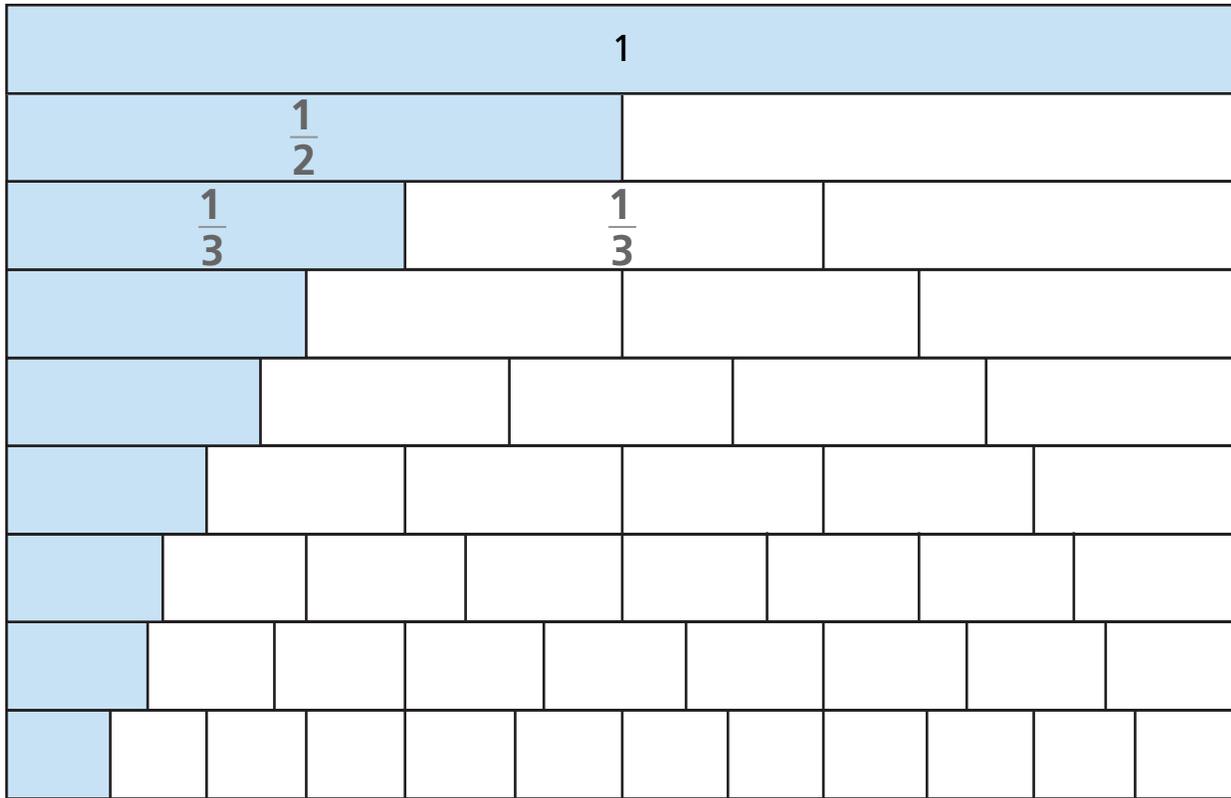
The diagram shows: $\frac{2}{3}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$

5 The large diagram above shows:

$\frac{5}{6}$ $\frac{\square}{\square}$

6 $\frac{1}{4}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$

7 $\frac{1}{2}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$ $\frac{4}{8}$

8 Challenge How did you find your answer?

$\frac{1}{7}$ $\frac{\square}{\square}$ _____

_____

Chapter 7
Lesson 3

Exploring Equivalent Fractions

NCTM Standards 1, 2, 6, 7, 9, 10

1 Alice has some bags of marbles. Each bag has
4 marbles, and **3** of the **4** marbles are green.

	1 Bag	2 Bags	3 Bags	4 Bags	5 Bags	6 Bags	7 Bags	8 Bags	9 Bags	10 Bags
Number of green marbles	3	6	9							
Number of Alice's marbles	4			16						

2 Ben has bags with **3** marbles. Each bag contains
2 green marbles.

	1 Bag	2 Bags	3 Bags	4 Bags	5 Bags	6 Bags	7 Bags	8 Bags	9 Bags	10 Bags
Number of green marbles	2									
Number of Ben's marbles	3									

3 In Kathryn's bags, **5** of the **6** marbles are green.

	1 Bag	2 Bags	3 Bags	4 Bags	5 Bags	6 Bags	7 Bags	8 Bags	9 Bags	10 Bags
Number of green marbles	5									
Number of Kathryn's marbles	6									

4 Paul has bags with **9** marbles. Each bag contains
7 green marbles.

	1 Bag	2 Bags	3 Bags	4 Bags	5 Bags	6 Bags	7 Bags	8 Bags	9 Bags	10 Bags
Number of green marbles	7									
Number of Paul's marbles	9									

5 Nina has **60** stickers, and **1** of every **10** stickers has glitter. How many stickers with glitter does Nina have?

_____ stickers with glitter

Nina arranges her 60 stickers in an album. She puts 3 big stickers and 2 small stickers on each page.

6 How many pages does she fill?

_____ pages

---

7 How many small stickers does she have?

_____ small stickers

---

8 How many big stickers does she have?

_____ big stickers

9 **Challenge** In **5** bags, there are a total of **150** marbles. Each bag has the same number of marbles. How many marbles would there be in **8** bags if the number of marbles in each bag remains the same?

_____ marbles

Name _____ Date/Time _____

Fractional Relationships in Context

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Frank works in a candy shop. He sells two kinds of bags of candy: choco-mint bags and chewy bags. In choco-mint bags there is **1** chocolate for every **4** peppermints. In chewy bags there are **2** licorice sticks for every **3** gumdrops. The store offers different-size bags. Complete the chart to show how many pieces of each type of candy Frank needs for different bags.

Candy Store

1

Number of chocolates	1	2						
Number of pieces of candy	5	10						

2

Number of peppermints	4	8						
Number of pieces of candy	5							

3

Number of licorice sticks								
Number of pieces of candy								

4

Number of gumdrops								
Number of pieces of candy								

5 Frank needs to make a choco-mint bag with **50** pieces of candy. How many of each type of candy does he need?

_____ chocolates

_____ peppermints

6 Jackie bought a bag with **8** licorice sticks. Her sister bought a bag with **9** gumdrops. Did they buy bags of the same size?

_____

7 The Sports Store sells **6 golf balls for $1.50.**
The Athletic Store sells **4 golf balls for 80¢.**

   A How much do **12** golf balls cost at the Sports Store? $ ___ . ___

   B How much do **12** golf balls cost at the Athletic Store? $ ___ . ___

   C At these prices, which store has the better deal
for **10** golf balls? How do you know?

_____

_____

8 The grocery store sells **8 ounces of juice for
$1.60.** The fruit stand sells **12 ounces of juice
for $3.00.** Which store has the better deal
per ounce? Why?

_____

_____

_____

_____
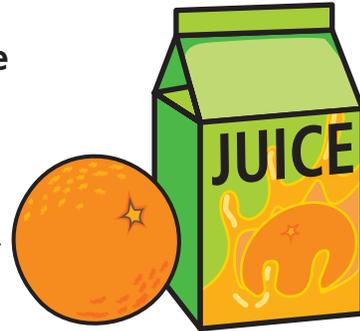
9 Challenge A pound of apples costs **$2.80.**
How much do **1$\frac{1}{2}$** pounds of apples cost?

$ ___ . ___

Name _____ Date/Time _____
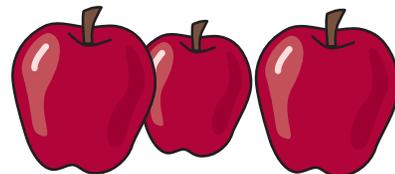
Comparing Fractions in Context

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Answer the question. Then write , , or .

1

Does 1 half dollar buy more than, less than, or the same as 3 quarters?

_____

$\frac{1}{2}$ ◯ $\frac{3}{4}$

2 A day is one seventh of a week.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11

Is five sevenths of a week greater than, less than, or equal to 3 days?

_____

$\frac{5}{7}$ ◯ $\frac{3}{7}$

Complete each fraction.

3
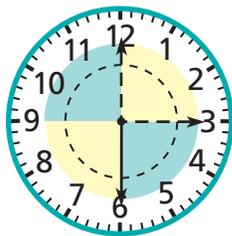
Two quarters of an hour is the

same as $\dfrac{\boxed{}}{\boxed{}}$ of an hour.

$\dfrac{2}{4}$ $\dfrac{\boxed{}}{\boxed{}}$

4
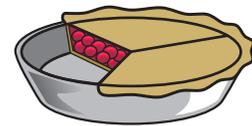
Two thirds of a pie is the

same as $\dfrac{\boxed{}}{6}$ of a pie.

$\dfrac{2}{3}$ $\dfrac{\boxed{}}{\boxed{}}$

5 One egg is $\frac{1}{12}$ of a dozen eggs.
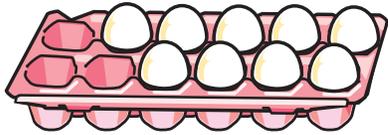
Is nine twelfths of a dozen **greater than, less than,** or **the same as** one third of a dozen?

_____

$$\frac{9}{12} \bigcirc \frac{1}{3}$$

Is nine twelfths of a dozen **greater than, less than,** or **the same as** two thirds of a dozen?

_____

$$\frac{9}{12} \bigcirc \frac{2}{3}$$

6 Which buys more: 1 dollar and 3 quarters, or 4 half dollars?

_____

$$1\frac{3}{4} \bigcirc \frac{4}{2}$$

7 Challenge Compare $\frac{3}{10}$ and $\frac{1}{2}$. Write a story or draw a picture about money to help you.

$$\frac{3}{10} \bigcirc \frac{1}{2}$$

Comparing Fractions

NCTM Standards 1, 2, 4, 6, 7, 9, 10

Name _____ Date/Time _____

Fill in the table to show the number of minutes or the fraction of an hour. You can use the pictures of clocks to help you.
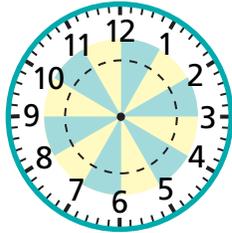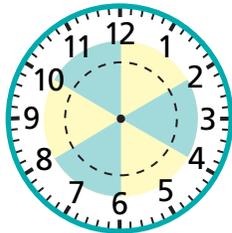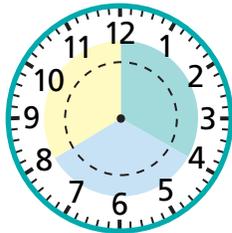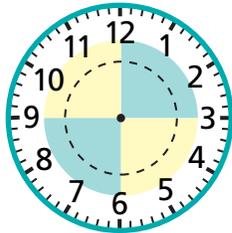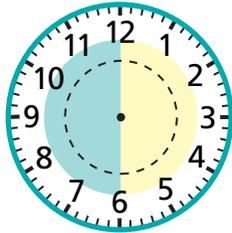
	Fraction of an Hour	Minutes
1	$\frac{1}{2}$	
2	$\frac{1}{3}$	
3	$\frac{1}{4}$	
4	$\frac{1}{5}$	
5		10
6	$\frac{1}{10}$	
7		5
8	$\frac{1}{60}$	
9	$\frac{2}{3}$	
10	$\frac{3}{4}$	
11	$\frac{5}{6}$	

Compare the fractions using   ,   , or   .

12 $\frac{1}{3}$ ◯ $\frac{1}{5}$

13 $\frac{1}{2}$ ◯ $\frac{2}{3}$

14 $\frac{2}{3}$ ◯ $\frac{5}{6}$

© Education Development Center, Inc.

You may label the white bars to help you compare the fractions below.

1

| $\frac{1}{2}$ | |

| $\frac{1}{3}$ | | |

| $\frac{1}{4}$ | | | |

| $\frac{1}{5}$ | | | | |

| $\frac{1}{6}$ | | | | | |

| $\frac{1}{8}$ | | | | | | | |

| $\frac{1}{9}$ | | | | | | | | |

| $\frac{1}{12}$ | | | | | | | | | | | |
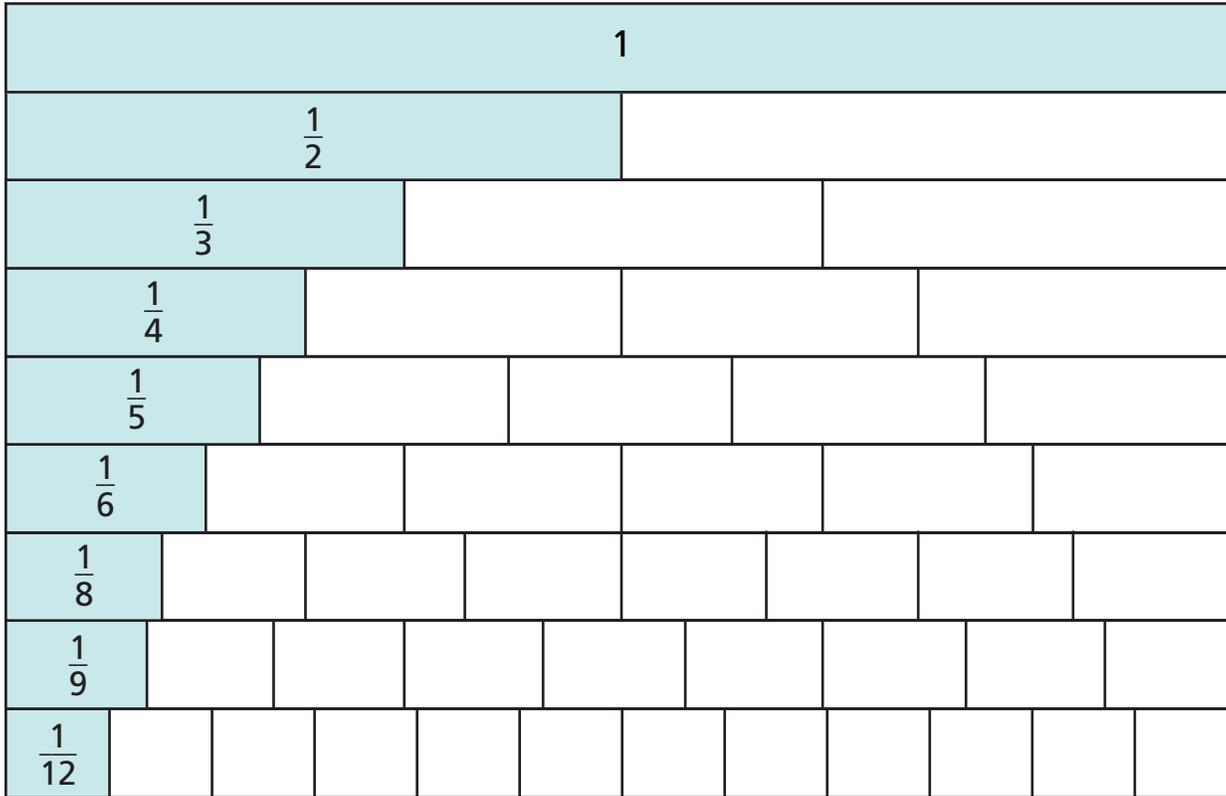
Compare the fractions using   ,   , or   .

15 $\frac{1}{3}\bigcirc\frac{1}{2}$ | **16** $\frac{1}{9}\bigcirc\frac{1}{8}$ | **17** $\frac{1}{4}\bigcirc\frac{1}{6}$ | **18** $\frac{1}{2}\bigcirc\frac{1}{4}$

19 $\frac{1}{2}\bigcirc\frac{2}{3}$ | **20** $\frac{2}{5}\bigcirc\frac{1}{4}$ | **21** $\frac{2}{4}\bigcirc\frac{1}{2}$ | **22** $\frac{3}{9}\bigcirc\frac{2}{3}$

23 $\frac{3}{5}\bigcirc\frac{1}{2}$ | **24** $\frac{3}{8}\bigcirc\frac{3}{9}$ | **25** $\frac{6}{9}\bigcirc\frac{6}{8}$ | **26** $\frac{6}{12}\bigcirc\frac{1}{2}$

Challenge

27 $\frac{3}{4}\bigcirc\frac{3}{5}$ $\frac{3}{5}\bigcirc\frac{3}{6}$ $\frac{3}{6}\bigcirc\frac{3}{9}$

28 $\frac{2}{3}\bigcirc\frac{3}{4}$ $\frac{3}{4}\bigcirc\frac{4}{5}$ $\frac{4}{5}\bigcirc\frac{5}{6}$

Name _____   Date/Time _____

Problem Solving Strategy
Make a Model
NCTM Standards 1, 2, 6, 7, 8, 9, 10

- Understand
- Plan
- Solve
- Check

1 Carol has 20 buttons. $\frac{1}{5}$ of the buttons are red, $\frac{2}{5}$ are white, and the rest are black. How many buttons of each color does Carol have?

_____ red   _____ white   _____ black

2 Guy's parents bought 2 dozen eggs to prepare for the class bake sale. They used $\frac{1}{3}$ of the eggs to bake cakes and $\frac{1}{4}$ of the eggs to bake brownies. They used the rest of the eggs to bake cookies. How many eggs did Guy's parents use for each type of treat?

_____ eggs for cakes   _____ eggs for brownies   _____ eggs for cookies

3 Ory has a collection of 28 coins. 2 out of every 7 coins are nickels, 3 out of every 7 coins are quarters, and the rest are foreign coins. How many coins are from foreign countries?

_____ coins

Problem Solving Test Prep

Choose the correct answer.

1 Which output completes the table?

INPUT	6	2	9	4
OUTPUT	13	9	16	■

A. 20 **C.** 11

B. 17 **D.** 8

2 Georgia named 7 songs as her favorites. Cory named 6 more than Georgia. Which number sentence shows how many they chose together?

A. 7 6 1

B. 13 7 20

C. 13 7 6

D. 6 7 13

3 Terry shares 32 stickers with 7 friends. He gives the same amount to each friend and to himself. Which expression tells how Terry shares his stickers?

A. 32 7

B. 32 8

C. 32 4

D. 32 7

4 The mystery number
- is greater than 70 but less than 90.
- is odd.
- has a digit sum that is even.

Which number could NOT be the mystery number?

A. 73 **C.** 77

B. 75 **D.** 81

Show What You Know

Solve the problem. Explain your answer.

5 Jenna has 12 miles to walk. She plans to walk half of it before lunch, half of what is left after lunch, and the rest after dinner. How far will she walk after dinner? Explain.

_____

_____

6 Tim and Carlo each have 18 potatoes to peel. Tim has peeled $\frac{2}{3}$ of his potatoes. Carlo divides his potatoes into 2 equal groups. He has peeled 1 group. Who has peeled more potatoes? Explain.

_____

_____

Chapter 7 **Review/Assessment**
NCTM Standards 1, 2, 6, 7, 9, 10

1 Label each piece of the bar with the fraction of the top bar that it represents. **Lesson 1**

1					

$\frac{1}{2}$	

$\frac{1}{3}$	$\frac{1}{3}$	
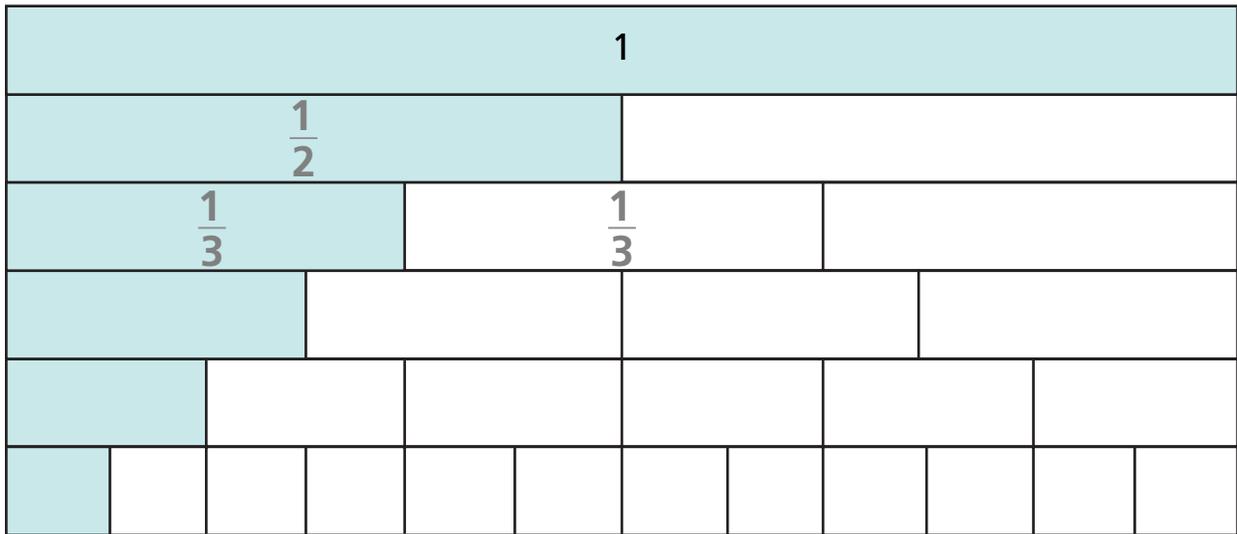
Compare the fractions using , , or . **Lesson 6**

2 $\frac{1}{3}$ ◯ $\frac{2}{3}$

3 $\frac{1}{6}$ ◯ $\frac{1}{4}$

4 $\frac{2}{6}$ ◯ $\frac{3}{12}$

Complete the fractions. Lesson 2

5 $\dfrac{3}{\Box}$ $\dfrac{1}{2}$

6 $\dfrac{9}{12}$ $\dfrac{3}{\Box}$

7 $\dfrac{2}{3}$ $\dfrac{8}{\Box}$

---

8 Complete the chart. **Lessons 3 and 4**

Jen has some bags of rocks. Each bag has 8 rocks, and 3 of the 8 rocks are smooth.

	1 bag	2 bags	3 bags	4 bags	5 bags	6 bags
Number of smooth rocks	3	6	9	☐	☐	☐
Number of rocks	8	☐	☐	32	☐	☐

Answer the question. Then write <, >, **or** =. Lesson 5

9
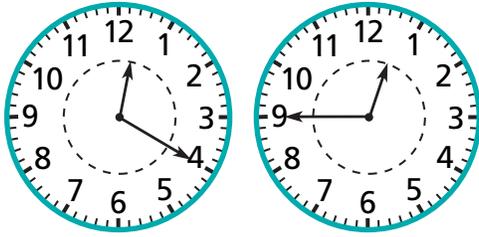
Is one third of an hour *less than, greater than,* or *equal to* three quarters of an hour?

_____

$\frac{1}{3}$ ◯ $\frac{3}{4}$

10

Do 2 quarters buy *more than, less than,* or *the same as* 3 dimes?

_____

$\frac{2}{4}$ ◯ $\frac{3}{10}$

11 The third graders were asked if they like soccer or basketball better. Fifteen students chose soccer. That was 3 out of every 5 students in third grade. How many students are in third grade? **Lesson 7**

_____

© Education Development Center, Inc.