Name _____   Date _____

Adding and Subtracting Fractions with Like Denominators

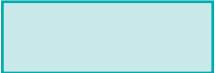NCTM Standards 1, 2, 7, 10

Complete the sentences with number words.

1. twelve apples   eight apples   _____

2. eight-eighths   three-eighths   _____

3. seven-fourths   four-fourths   _____

Shade the bars to show the sums. Complete the number sentences. Change improper fractions to mixed numbers.

[ ] 1

4. [bar] + [bar] = [bars]

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

5. [bar] + [bar] = [bars]

$\dfrac{5}{6} + \dfrac{3}{6} = \dfrac{\square}{\square} = \square$

6. [bar] + [bar] = [bars]

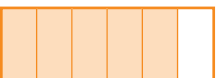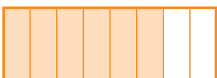$\dfrac{4}{7} + \dfrac{2}{7} = \dfrac{\square}{\square}$

Use the pictures to complete the number sentences.

[ ] 1

7. [bars] $\dfrac{5}{6} - \dfrac{2}{6} = \dfrac{\square}{\square}$

8. [bars] $\dfrac{6}{8} - \dfrac{3}{8} = \dfrac{\square}{\square}$

Complete the number sentences.

9

$$\frac{7}{17} + \frac{8}{17} = \frac{\boxed{}}{\boxed{}}$$

10

$$\frac{15}{25} - \frac{9}{25} = \frac{\boxed{}}{\boxed{}}$$

11

$$\frac{50}{32} - \frac{29}{32} = \frac{\boxed{}}{\boxed{}}$$

12

$$\frac{4}{16} + \frac{\boxed{}}{\boxed{}} = \frac{13}{16}$$

13

$$\frac{\boxed{}}{\boxed{}} + \frac{39}{70} = \frac{72}{70}, \quad \text{or} \quad 1\frac{2}{70}$$

14

$$\frac{\boxed{}}{\boxed{}} - \frac{9}{47} = \frac{18}{47}$$

15 Choose one of the number sentences above. Write it and three related addition and subtraction sentences.

$$\frac{\boxed{}}{\boxed{}} + \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

$$\frac{\boxed{}}{\boxed{}} + \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

$$\frac{\boxed{}}{\boxed{}} - \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

$$\frac{\boxed{}}{\boxed{}} - \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

16 Challenge

$$\frac{18}{98} + \frac{9}{98} + \frac{5}{98} + \frac{17}{98} = \frac{\boxed{}}{\boxed{}}$$

Write an equivalent fraction for the sum. $\frac{\boxed{}}{\boxed{}}$

Name _____ Date _____

More Adding and Subtracting Fractions with Like Denominators

NCTM Standards 1, 2, 6, 7, 9

Write fractions to complete the number sentences.

1

$$\frac{49}{50} - \frac{32}{50} = \frac{\square}{\square}$$

2

$$\frac{21}{32} + \frac{9}{32} = \frac{\square}{\square}$$

3

$$\frac{46}{46} + \frac{16}{46} = \frac{\square}{\square}$$

4

$$\frac{11}{18} + \frac{\square}{\square} = \frac{24}{18}$$

5

$$\frac{\square}{\square} + \frac{16}{25} = \frac{28}{25}$$

6

$$\frac{3}{100} + \frac{\square}{\square} + \frac{29}{100} = \frac{51}{100}$$

7 Draw and use a picture to solve the problem. Write a number sentence to show the solution.

Ben walks $2\frac{1}{4}$ miles along a straight road to go from his house to school. He passes Molly's house $\frac{3}{4}$ of a mile after he starts his walk and usually walks the rest of the way with her. How far does Molly walk to get to school?

_____

_____

_____

Complete the number sentences. If the sum or difference is an improper fraction, change it to a mixed number or a whole number.

Example $\frac{29}{8}$ $\frac{10}{8}$ $\frac{39}{8}$ $4\frac{7}{8}$

8

$\frac{14}{12} + \frac{13}{12} = \frac{\boxed{}}{\boxed{}} = \boxed{}$

9

$2\frac{1}{6} + 3\frac{1}{6} = \boxed{5}$

10

$\frac{9}{8} + 3\frac{5}{8} = \boxed{}$

11

$\frac{29}{24} - \frac{5}{24} = \boxed{}$

12

$6\frac{11}{15} - 2\frac{2}{15} = \boxed{}$

13

$\frac{29}{27} + 1\frac{7}{27} = \boxed{}$

14 Challenge List the sums and differences from Problems 8–13 in order from least to greatest.

$\boxed{}$ $\boxed{}$ $\boxed{}$ $\boxed{}$ $\boxed{}$ $\boxed{}$

Name _____ Date _____

Stories About Adding and Subtracting Fractions

NCTM Standards 1, 6, 7, 9, 10

Solve the problems using the pictures.
Write number sentences to match the solutions.

1 Carin ate $\frac{3}{8}$ of a whole pizza. If her brother ate the rest of the pizza, what fraction of the pizza did he eat?
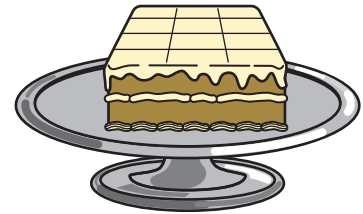
_____
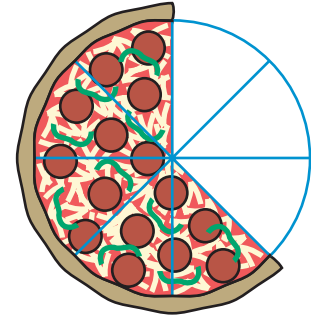
Number sentence(s):

_____

2 Ms. Liang cut a square cake into twelve equal-sized pieces. If her husband ate $\frac{3}{12}$ of the cake and her son ate $\frac{3}{12}$, what fraction of the cake might she share with her daughter?

_____

Number sentence(s):

_____

_____

3 T.J. ran as fast as he could for $\frac{6}{10}$ of a mile, then jogged the rest of the mile. What fraction of the mile did he jog?
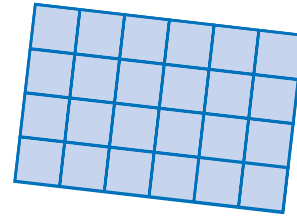
_____

Number sentence(s):

0   1

_____

_____

You may use the picture to help you solve both Problems 4 and 5.

Write number sentences and draw pictures to match the solutions.

4 Mrs. Benson's class is making a quilt of 24 patches. The class completed $\frac{7}{24}$ of the quilt the first week and $\frac{11}{24}$ more the second week. What fraction of the quilt remains to be finished?
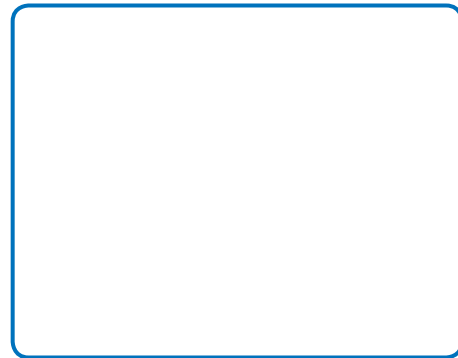
_____

Number sentences and pictures:

_____

_____

5 There are 24 students in Mr. Cohen's class. There are 10 boys in the class. What fraction of the students are girls?

_____

Number sentences and pictures:

_____

_____

6 **Challenge** A square-shaped field measures 60 feet by 60 feet. If John mows $\frac{1}{4}$ of the field, how many square feet does John mow?

_____ sq ft

Show your work.

Name _____   Date _____

Adding and Subtracting Unlike Things

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

Complete the sentences with number words.

1 eight-tenths   _____-tenths   fifteenth-tenths

2 three feet   twelve inches   _____ feet

3 four feet   _____ inches   fifty-six inches

Complete the number sentences.
Use the conversion key.

Conversion Key			
1 lb 16 oz	1 hr 60 min	1 L 1,000 mL	1 m 100 cm
1 yd 3 ft	1 min 60 sec	1 km 1,000 m	1 cm 10 mm

4

$$\frac{8}{10} + \frac{\Box}{10} = \frac{15}{10}$$

5

_____ min   2 hr   135 min

6

4 ft   26 in.   _____ in.

7

2 L   400 mL   _____ mL

8

$$\frac{\Box}{100} - \frac{29}{100} = \frac{56}{100}$$

9

3 m   _____ cm   462 cm

Decide which unit to use for your answer and circle it.
Complete each number sentence.

10

120 sec   4 min   _____   sec
min

11

4 lb   32 oz   _____   oz
lb

12

4 m   3,000 cm   _____   m
cm

13

5 ft   48 in.   _____   ft
in.

Complete the number sentences.

14

12 yd   12 ft   _____ yd

15

1,300 m $\frac{1}{2}$ km   _____ m

16

_____ mm   12 cm   17 cm

17

15 min $\frac{1}{2}$ hr   _____ hr

18 **Challenge** Ali told Chandra that $2\frac{1}{2}$ $1\frac{3}{4}$ $3\frac{4}{6}$.
Chandra disagreed. Who was right?

_____

Draw sketches and explain your answer in words.

_____

_____

Name _____   Date _____

Adding and Subtracting Fractions with Unlike Denominators

NCTM Standards 1, 2, 4, 6, 7, 8, 9

Add or subtract fractions of an hour and find the number of minutes.

1 $\frac{1}{4}$ of an hour = ☐ min or $\frac{☐}{60}$ of an hour

$\frac{2}{3}$ of an hour = ☐ min or $\frac{☐}{60}$ of an hour

$\frac{1}{4} + \frac{2}{3} = \frac{☐}{60} + \frac{☐}{60} = \frac{☐}{60}$ of an hour or ☐ min

---

2 $\frac{2}{3}$ of an hour = ☐ min or $\frac{☐}{60}$ of an hour

$\frac{1}{2}$ of an hour = ☐ min or $\frac{☐}{60}$ of an hour

$\frac{2}{3} + \frac{1}{2} = \frac{☐}{60} + \frac{☐}{60} = \frac{☐}{60}$ of an hour or ☐ min

---

3 $\frac{1}{3}$ of an hour = ☐ min or $\frac{☐}{60}$ of an hour

$\frac{1}{5}$ of an hour = ☐ min or $\frac{☐}{60}$ of an hour

$\frac{1}{3} - \frac{1}{5} = \frac{☐}{60} - \frac{☐}{60} = \frac{☐}{60}$ of an hour or ☐ min

For each problem below:

    A Find a common denominator for the fractions.

    B Write equivalent fractions using that denominator.

    C Add or subtract.

4

$$\frac{3}{10} + \frac{2}{5} = \frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$$

5

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

6

$$\frac{5}{6} - \frac{2}{3} = \frac{\square}{\square} - \frac{\square}{\square} = \frac{\square}{\square}$$

7

$$\frac{4}{7} + \frac{2}{5} = \frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$$

8

$$\frac{3}{8} + \frac{1}{6} = \frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$$

9

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

10 Drew bought $\frac{7}{8}$ of a yard of fabric to make a belt for his costume. He used $\frac{2}{3}$ of a yard for the belt. How much fabric does he have left? Explain.

_____

_____

_____

_____

_____

11 Challenge

$$7\frac{5}{6} - 3\frac{5}{9} = 7\frac{\square}{\square} - 3\frac{\square}{\square} = \square\frac{\square}{\square}$$

Name _____ Date _____

Stories with Fractions
NCTM Standards 1, 2, 4, 6, 7, 9

1 Keffie and Danny were painting a mural at school. They need to make a special color, so they mixed $4\frac{1}{2}$ pints of blue paint, $2\frac{1}{6}$ pints of white paint, and $\frac{2}{3}$ of a pint of green paint.

Write a number sentence to show how many pints of their special color they had.

_____

_____

_____

2 Jake ran five-sixths of a mile. Shayne ran three-fourths of a mile.

Who ran farther? Jake or Shayne?

_____

_____

Write a number sentence to show the difference between the two distances.

_____

_____

3 Michaela spent two-thirds of her allowance on a magazine. She spent one-fourth of her allowance on candy.

Write a number sentence to show the fraction of her allowance that she spent on both items.

_____

_____

Write a number sentence to show the fraction of her allowance she has left.

_____

_____

_____

4 Two-sevenths of the students in Sammy's class were at band practice. One-fourth of the students were at chorus practice.

Are there more students at band practice or at chorus practice?

_____

_____

_____

What fraction of the class is out of the room?

_____

Write a number sentence to show the fraction of the class that is still in the room.

_____

5 Joseph and Derek had a goal to collect twenty-four used books for the school book sale. In the first week Joseph collected 9 books and Derek collected 8 books.

What fraction of the goal has **Joseph** collected so far?

_____

What fraction of the goal has **Derek** collected so far?

_____

Write a number sentence to show the fraction of the goal that remains.

_____

6 One day, Ahmad spent five-sixths of an hour on his homework and practiced piano for three-fifths of an hour.

How many minutes did he spend on homework?

_____

How many minutes did he spend on piano?

_____

Write a number sentence to show how many minutes he worked in all.

_____

Write a number sentence to show how many hours he worked.

_____

7 Tifani braided yarn until she had a rope that was five-sixths of a yard long. Then Danisha braided another three-fourths of a yard onto the end of Tifani's rope.

How many yards long is the rope now?

_____

How many inches did Tifani braid?

_____

How many inches did Danisha braid?

_____

Write a number sentence to show how many more inches they have to braid to have a rope 5 feet long.

_____

8 **Challenge** Ani had fewer than 25 marbles. She dropped one-fifth of them behind the sofa and hid three-fourths of them in her brother's room. She put the rest in her room.

Could Ani have started with 12 marbles?

_____

How many marbles did Ani have to start with?
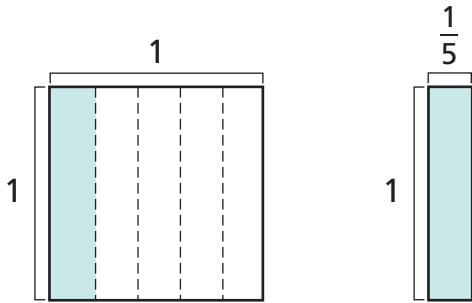
_____

How many are in her room?

_____

Name _____ Date _____

Using Area to Multiply Fractions

NCTM Standards 1, 4, 7, 9, 10

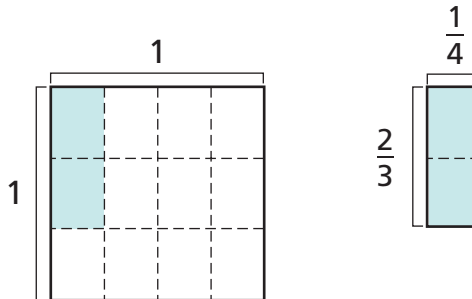**Fill in the blanks and find the shaded areas to multiply the fractions.**
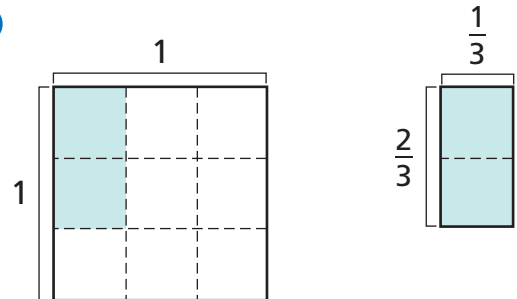
1

$$\frac{1}{5} \times 1 = \boxed{}$$

2
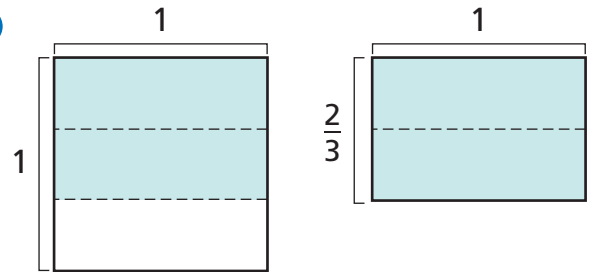
$$1 \times \frac{2}{3} = \boxed{}$$

3

$$\frac{1}{4} \times \frac{2}{3} = \boxed{}$$

4

$$\frac{1}{3} \times \frac{2}{3} = \boxed{}$$

5
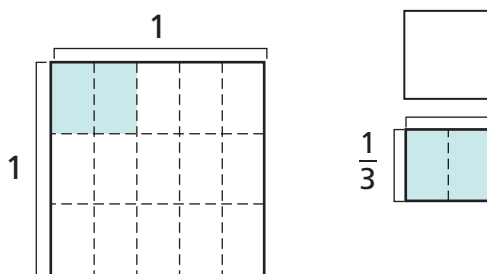
$$\boxed{} \times \frac{1}{3} = \boxed{}$$

6
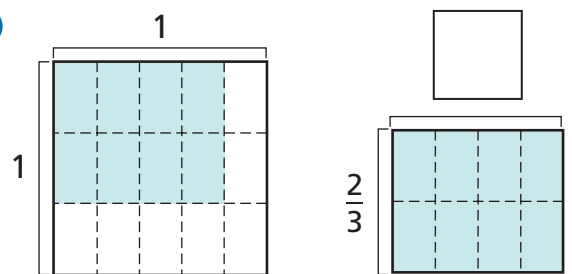
$$\boxed{} \times \frac{2}{3} = \boxed{}$$

Complete each sentence and find the shaded areas to multiply the fractions.

7
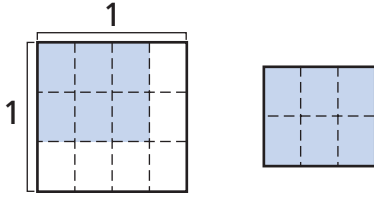
$$\frac{3}{4} \times \boxed{} = \boxed{}$$

8
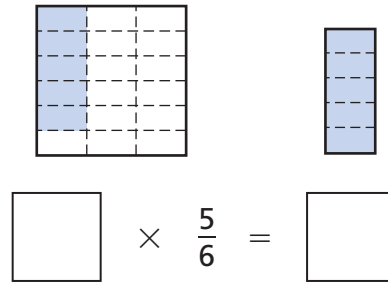
$$\boxed{} \times \frac{5}{6} = \boxed{}$$

9

$$\boxed{} \times \boxed{} = \boxed{}$$
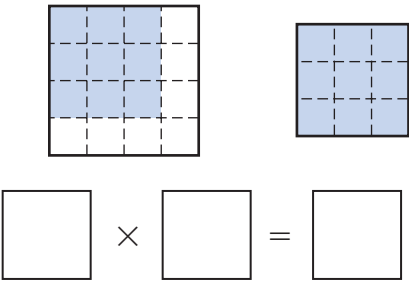
10

$$\boxed{} \times \boxed{} = \boxed{}$$
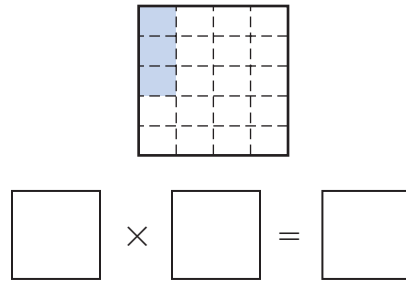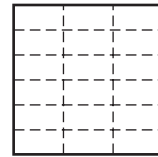
Shade the indicated areas and complete the sentences to multiply the factors.
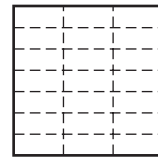
11
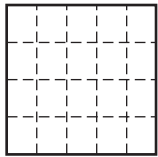
$$\frac{2}{5} \times \frac{3}{4} = \boxed{}$$

12

$$\frac{2}{3} \times \frac{5}{6} = \boxed{}$$

13
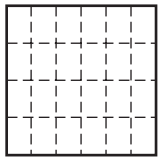
$$\frac{5}{6} \times \frac{3}{4} = \boxed{}$$

14

$$\frac{2}{3} \times \frac{4}{7} = \boxed{}$$

Challenge

15 $\dfrac{4}{7} \times \boxed{} = \dfrac{8}{21}$ **16** $\dfrac{6}{7} \times \boxed{} = \dfrac{12}{35}$ **17** $\dfrac{4}{5} \times \boxed{} = \dfrac{18}{25}$

Name _____ Date _____
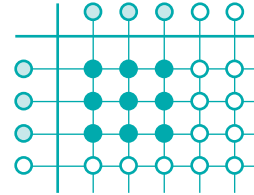
Using Other Models to Multiply Fractions

Use the sketches to help you complete the number sentences.

1
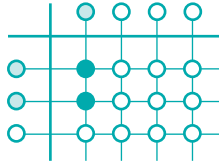
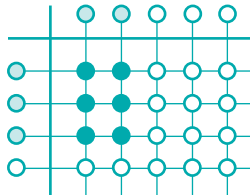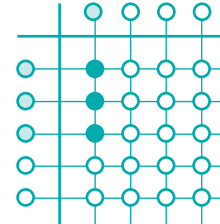$$\frac{1}{4} \times \frac{2}{3} = \boxed{\frac{2}{12}} \text{ or } \boxed{\frac{1}{6}}$$

2

$$\frac{3}{5} \times \frac{3}{4} = \boxed{}$$

3

$$\boxed{} \times \frac{3}{4} = \boxed{} \text{ or } \boxed{}$$

4

$$\frac{1}{4} \times \boxed{} = \boxed{}$$

5

$$\boxed{} \times \boxed{} = \boxed{}$$
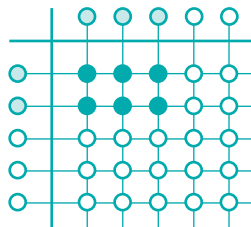
6
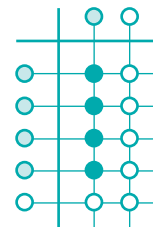
$$\boxed{} \times \boxed{} = \boxed{} \text{ or } \boxed{}$$

7
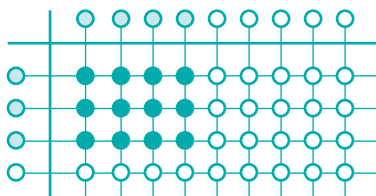
$$\frac{4}{9} \times \frac{3}{4} = \boxed{} \text{ or } \boxed{}$$

8

$$\frac{2}{5} \times \frac{3}{4} = \boxed{} \text{ or } \boxed{}$$

Draw dot sketches to show multiplication of fractions.
Complete the number sentences.

9

$$\frac{1}{3} \times \frac{2}{3} = \boxed{}$$

10

$$\frac{3}{4} \times \frac{1}{4} = \boxed{}$$

11

$$\frac{2}{5} \times \frac{3}{7} = \boxed{}$$

12

$$\frac{5}{6} \times \frac{1}{3} = \boxed{}$$

13

$$\frac{4}{5} \times \frac{3}{4} = \boxed{} \text{ or } \boxed{}$$

14

$$\frac{5}{6} \times \frac{1}{5} = \boxed{} \text{ or } \boxed{}$$

15 Challenge Find different solutions.

$$\boxed{} \times \boxed{} = \frac{5}{12} \qquad \boxed{} \times \boxed{} = \frac{5}{12} \qquad \boxed{} \times \boxed{} = \frac{5}{12}$$

$$\boxed{} \times \boxed{} = \frac{5}{12} \qquad \boxed{} \times \boxed{} = \frac{5}{12} \qquad \boxed{} \times \boxed{} = \frac{5}{12}$$

Name _____ Date _____

Fractions of Quantities
NCTM Standards 1, 6, 7, 8, 9

12 Eggs
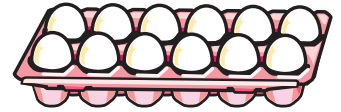
The input is 12 eggs. Write the outputs (the number of eggs) in the white boxes.

1

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

$\frac{4}{6}$	$\frac{5}{6}$	$\frac{6}{6}$	$\frac{1}{12}$	$\frac{2}{12}$	$\frac{3}{12}$	$\frac{4}{12}$	$\frac{5}{12}$	$\frac{6}{12}$	$\frac{7}{12}$	$\frac{8}{12}$	$\frac{9}{12}$	$\frac{10}{12}$	$\frac{11}{12}$

$\frac{12}{12}$	$\frac{2}{2}$	$\frac{3}{2}$	$\frac{4}{3}$	$\frac{5}{4}$	$\frac{6}{4}$	$\frac{4}{2}$	$\frac{8}{6}$	$\frac{6}{2}$	$\frac{9}{6}$	$\frac{8}{4}$	$\frac{7}{3}$	$\frac{15}{12}$	$\frac{5}{2}$

Complete each sentence.

2 $\frac{1}{4}$ of 12 eggs _____ eggs

3 $\frac{5}{6}$ of 12 eggs 5 _____ eggs

4 $\frac{4}{3}$ of 12 _____

5 _____ of 12   9

6 _____ of 12   16

7 $\frac{5}{12}$ of 24 _____

Complete each number sentence.

8 $\frac{2}{5}$ 35   _____

9 $\frac{5}{7}$ 56   _____

10 $\frac{6}{11}$ 44   _____

11 $\frac{3}{8}$ 96   _____

Complete each number sentence.

12 $\frac{1}{2}$ 10   _____

13 $1\frac{1}{2}$ 10   _____

14 $\frac{2}{3}$ 9   _____

15 $3\frac{2}{3}$ 9   _____

16 Blake bought a dozen eggs. He used $\frac{1}{3}$ of the eggs to make muffins and $\frac{1}{2}$ of eggs to make custard. How many eggs does he have left? Explain.

_____

_____

_____

_____

17 **Challenge** Complete the number sentence. Tell why your answer makes sense and explain what you did.

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

_____

_____

_____

_____

Name _____ Date _____

Stories About Multiplying Fractions
NCTM Standards 1, 2, 6, 7, 10

Solve the story problems. Show how you got your answers by drawing pictures or writing number sentences.

1 Matt's dad agreed to make him a new shelf for his room if he could figure out what fraction of a sheet of plywood he needed. Matt decided that the shelf needed to be three-quarters of its length and one-fifth of its width.

What fraction of the sheet of plywood is the shelf? _____

2 Batoul wanted to fence in an area of her backyard for her new rabbit. She promised her mother that she would only use one-third of the length and one-fourth of the width of the backyard.

What fraction of the whole backyard would be fenced for the rabbit? _____

3 Parisa's brownie recipe makes 4 dozen brownies. She wants to make 2 dozen brownies, and the recipe calls for three-quarters of a cup of oil.

How much oil will she need? _____

4 John had already walked one-third of the half-mile walk to school when he stopped to pat a horse.

How far had he already walked? (Give your answer as a fraction of a mile.) _____

What fraction of a mile does he have left to walk? _____

5 It's three-quarters of a mile from Caitie's home to the school. She was one-third of the way home from school when it started to rain.

How far had she walked when it started to rain? (Give your answer as a fraction of a mile.) _____

6 A sheet of glass is cut into rectangular panes. Each pane is one-quarter of the length and one-quarter of the width of the original sheet.

What fraction of the sheet of glass is left after cutting out one pane? _____

What fraction of the sheet is left after cutting out four panes? _____

7 The picture shows a 1-mile by 1-mile field divided into four sections for four different crops. Write in the missing dimensions and figure out the area of each section.

_____ mi $\frac{3}{7}$ mi

$\frac{2}{5}$ mi   A   C $\frac{3}{5}$ mi

B   D

_____ mi   _____ mi

_____ mi _____ mi
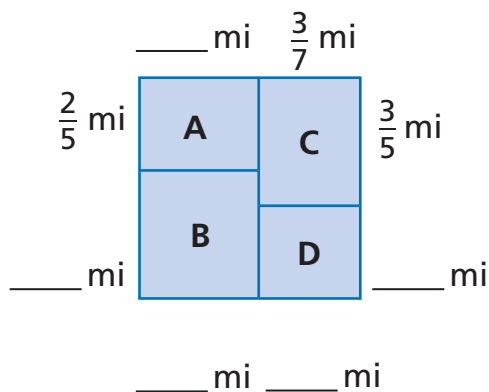
A _____

B _____

C _____

D _____

8 **Challenge** A field has an area of 1 square mile. A rectangular section is planted with corn. That section measures two-thirds of a mile along one side.
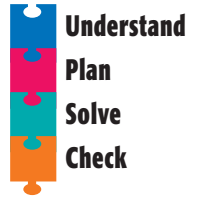
If the area of the section is one-half a square mile, what is the length of the other side of the section? _____

(HINT: You may want to use different equivalent fractions for one-half.)

Problem Solving Strategy
Solve a Simpler Problem
NCTM Standards 1, 2, 6

Understand
Plan
Solve
Check

Solve each problem.

1 Joshua had spent two-tenths of his allowance by Monday. By Wednesday, he had spent a total of three-fifths of it. What fraction of his allowance did he spend between Monday and Wednesday?

_____

_____

_____

2 Jayne walked a third of the way home from school, which brought her to the library. Then she walked a little farther to her friend's house. If Jane's friend lives four-sevenths of the way home from school, what fraction of Jane's walk is between the library and her friend's house?

_____

_____

_____

3 Ariel spent $\frac{3}{4}$ of an hour doing homework, Brad spent $\frac{5}{6}$ of an hour doing homework and Carla spent $\frac{2}{3}$ of an hour doing homework. List the children in order from the one who spent the most time to the one who spent the least time doing homework.

_____

4 Marti bought $\frac{3}{4}$ of a pound of green grapes and $\frac{7}{8}$ of a pound of red grapes. How many pounds of grapes did she buy?
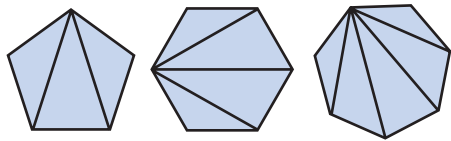
_____

Problem Solving Test Prep

Choose the correct answer.

1 Colleen's plant is $3\frac{1}{2}$ inches tall. It grows an average of $2\frac{1}{2}$ inches per week. How tall is it after 5 weeks?

  A. 17 inches   **C.** $15\frac{1}{2}$ inches

  B. 16 inches   **D.** $14\frac{1}{2}$ inches

2 Diagonals from the same vertex cut a polygon into triangles. How many triangles can be made from the diagonals of a 20-sided polygon?

  A. 15   **C.** 17

  B. 16   **D.** 18

3 A photograph is $\frac{5}{6}$ foot wide and $\frac{1}{2}$ foot high. How much greater is the photograph's width than its height?

  A. 3 inches   **C.** 5 inches

  B. 4 inches   **D.** 6 inches
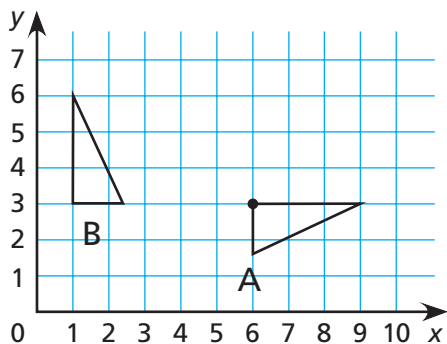
4 Which relationship is shown by the data in the table?

x	3	5	7	8	14
y	5	9	13	15	27

  A. y x 3

  B. y x 4

  C. y $2x$ 1

  D. y $2x$ 1

Show What You Know

Solve each problem. Explain your answer.

5 Use the grid. Draw the result of rotating triangle A 90 counterclockwise around the dot. Then explain how you could show that the image of triangle A is congruent to triangle B.

6 Pedro is making packages of pens and pencils for the school store. He has 48 pens and 60 pencils. Each package will have the same number of items. Each package will have only pens or only pencils. In how many different ways can he make the packages? If Pedro puts the greatest number of pens and pencils in each package, how many packages can he make in all?

Chapter 11 Review/Assessment
NCTM Standards 1, 2, 4, 6, 7, 9, 10

Complete the number sentences. Lessons 1 and 2
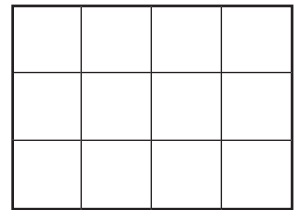
1 $\dfrac{17}{18}$ $\dfrac{12}{18}$ ☐

2 $\dfrac{14}{25}$ $\dfrac{11}{25}$ ☐

3 $\dfrac{30}{33}$ $\dfrac{13}{33}$ ☐

4 $5\dfrac{7}{16}$ $3\dfrac{5}{16}$ ☐

Solve the problem. Lesson 3

5 Fran folded a piece of paper into 12 sections. She colored $\dfrac{5}{12}$ of the paper red and $\dfrac{1}{12}$ of paper green. What fraction of the paper is NOT colored?

_____

Complete the number sentences. Lesson 4

6 3 m   4,000 cm   _____ m

7 192 in.   68 ft   _____ ft

8 _____ lb   16 oz   7 lb

9 _____ min $\dfrac{3}{4}$ hr   1 hr

Complete the number sentences by choosing a common denominator. Lesson 5

10 $\dfrac{1}{4} + \dfrac{1}{6} = \dfrac{\square}{\square} + \dfrac{\square}{\square} = \dfrac{\square}{\square}$
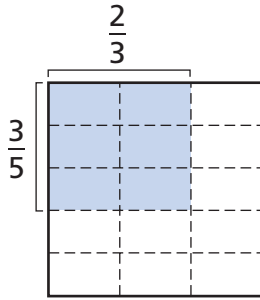
11 $\dfrac{3}{4} - \dfrac{1}{6} = \dfrac{\square}{\square} - \dfrac{\square}{\square} = \dfrac{\square}{\square}$

12 $\dfrac{1}{6} + \dfrac{3}{4} = \dfrac{\square}{\square} + \dfrac{\square}{\square} = \dfrac{\square}{\square}$

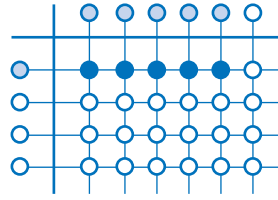**13** $\dfrac{5}{6} - \dfrac{3}{4} = \dfrac{\square}{\square} - \dfrac{\square}{\square} = \dfrac{\square}{\square}$

Write a multiplication number sentence for each sketch. Lessons 7 and 8

14

$\frac{2}{3}$

$\frac{3}{5}$

_____

15

_____

Complete each sentence. Lesson 9

16 $\frac{2}{3}$ of 12 _____

17 $\frac{5}{6}$ of 12 _____

18 $\frac{4}{3}$ of 12 _____

19 $\frac{3}{8}$ of 24 _____

Solve. Lesson 10

20 Sara bought $\frac{2}{3}$ of a pound of walnuts and used $\frac{3}{4}$ of what she bought to make granola bars. What fraction of a pound of the walnuts did she use to make the granola bars?

_____

21 A rectangular field has been prepared for planting. A portion of the field measuring one-fourth the length and two-fifths the width of the whole field will be planted with soybeans. What fraction of the whole field will that soybean patch be?

_____

Solve. Lesson 11

22 Andee spent $\frac{2}{3}$ of her allowance on a movie and $\frac{1}{4}$ on a book. Has she spent all of her allowance?

_____

Tell or show how you know.