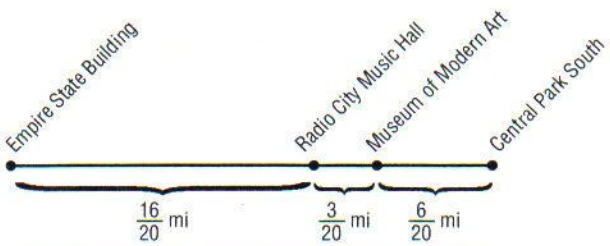
5-3 Word Problem Practice

Adding and Subtracting Fractions with Like Denominators

MAPS For Exercises 1–3, use the drawing at the right that shows distances between major sites on the Avenue of the Americas in New York City.



Avenue of the Americas, New York City

1. Carla walked from the Empire State Building to the Museum of Modern Art. How far did she walk?	**2.** Julie walked from Central Park South to the Museum of Modern Art. Jolene walked from Radio City Music Hall to the Museum. How much farther did Julie walk than Jolene?
3. Darnell walked from Central Park South to the Empire State Building. How far did he walk?	**4. COOKING** Tiffany made a glass of punch from fruit juice concentrate. She used $\frac{1}{4}$ cup concentrate and $\frac{3}{4}$ cup water. How much more water than concentrate did Tiffany use?
5. ART Beng is creating a painting. He has $\frac{5}{8}$ of a tube of red paint and $\frac{3}{8}$ of a tube of green paint. How much more red paint does he have than green paint?	**6. CONSTRUCTION** Mr. Hayashi is repairing his sidewalk. He mixed $\frac{5}{9}$ pound of cement with sand and water to make concrete. The next day he mixed $\frac{7}{9}$ pound of cement with sand and water. How many pounds of cement altogether did Mr. Hayashi use?

5-4 Word Problem Practice

Adding and Subtracting Fractions with Unlike Denominators

BUSINESS For Exercises 1–4, use the table below. It lists the fractions of United States car sales held by several companies in a recent year.

Leading Car Sales in U.S.	
Company	**Fraction of Sales**
Company A	$\frac{1}{5}$
Company B	$\frac{4}{25}$
Company C	$\frac{2}{5}$
Company D	$\frac{3}{20}$

1. What fraction of the U.S. sales did Company C and Company B hold together?

2. How much greater was the fraction of the market of Company A than of Company D?

3. How much more than Company A's fraction of the market did Company C have?

4. Find the total fraction of the market that Company D and Company B hold together.

5. TRAVEL Gabriella's travel shampoo bottle holds $\frac{1}{2}$ cup of shampoo. Before leaving on vacation, she filled the bottle to the top with $\frac{1}{8}$ cup of shampoo. How much shampoo was already in the bottle?

6. EXERCISE Bill and Andy were racing to see who could run the farthest in 5 minutes. Bill ran $\frac{5}{8}$ of a mile, and Andy ran $\frac{3}{4}$ of a mile. How much farther did Andy run than Bill?

5-5 Word Problem Practice

Adding and Subtracting Mixed Numbers

Solve. Write answers in simplest form.

1. SCHOOL Liwanu spent $2\frac{2}{5}$ hours on his math homework and $1\frac{3}{5}$ hours on his science homework. How much time did he spend doing math and science homework?	**2. FARMING** Mr. Garcia planted $4\frac{7}{8}$ acres of wheat and $1\frac{5}{8}$ acres of corn. How much more wheat did he plant than corn?
3. TRAVEL It usually takes Amalie $1\frac{3}{4}$ hours to get to her aunt's house. Due to Thanksgiving traffic, this year it took $3\frac{1}{3}$ hours. How much longer did it take this year?	**4. COOKING** Gina wants to make muffins. The recipe for blueberry muffins calls for $2\frac{3}{4}$ cups of flour. The recipe for cornmeal muffins calls for $1\frac{1}{3}$ cups of flour. How many more cups of flour would Gina need for blueberry muffins than corn muffins?
5. SCULPTURE José has $8\frac{1}{2}$ cups of Plaster of Paris powder. If José uses $5\frac{3}{5}$ cups for a sculpture, how much plaster will he have left?	**6. BOOKS** Kyle read $3\frac{5}{6}$ books and Jan read $2\frac{1}{3}$ books. How many more books did Kyle read than Jan?
7. ANIMALS The average length of a Rufous hummingbird is $3\frac{1}{2}$ inches. The average length of a Broad-tailed hummingbird is $4\frac{1}{2}$ inches. How much shorter is the Rufous hummingbird?	**8. RECYCLING** The class collected $9\frac{5}{7}$ pounds of glass bottles and $6\frac{1}{2}$ pounds of aluminum cans. How many pounds of glass and aluminum did the class collect in all?

5-6 Word Problem Practice

Estimating Products of Fractions

Estimate by using rounding or compatible numbers. Show how you found your estimates.

FOOD For Exercises 1–3, use the table. The table lists the grams of saturated fat per tablespoon of some common fats.

Grams of Saturated Fat per Tablespoon	
Safflower Oil	$\frac{4}{5}$
Olive Oil	$1\frac{4}{5}$
Butter	$7\frac{1}{5}$
Cream Cheese	$3\frac{1}{5}$

1. Jenny is making muffins. The recipe calls for 4 tablespoons of oil. If she uses safflower oil, about how many grams of saturated fat would she be adding to the muffin batter?

2. Curtis spread 2 tablespoons of butter on his slice of bread. About how many grams of saturated fat did Curtis add to the slice of bread?

3. Rubin is fond of bagels and cream cheese. He spread $5\frac{2}{3}$ tablespoons of cream cheese on his bagel and ate the bagel. About how many grams of saturated fat did Rubin eat by eating the cream cheese?

4. WATER Marcia is making a habit of drinking at least 7 cups of water a day. About how many cups of water did she drink if she drank $\frac{3}{4}$ the number of cups she wanted to drink?

5. TRAVEL Seth has been driving for $4\frac{3}{4}$ hours at 62 miles per hour. About how many miles has he driven?

6. MAIL The U.S. Postal Service delivers about 199 billion pieces of mail each year. Of this mail, $\frac{4}{5}$ is sent by big commercial users. About how many pieces of mail are sent by big commercial users each year?

5-7 Word Problem Practice

Multiplying Fractions

COOKING For Exercises 1 and 2, use the recipe for chocolate frosting.

Chocolate Frosting Recipe

$\frac{1}{3}$ cup butter

2 ounces melted unsweetened chocolate

2 cups powdered sugar

$\frac{1}{2}$ teaspoon vanilla

2 tablespoons milk

1. Georgia wants to cut the recipe for chocolate frosting in half for a small cake that she's making. How much of each ingredient will she need?

2. Suppose Georgia wanted to double the recipe; what would the measurements be for each ingredient?

3. COMPUTERS $\frac{1}{5}$ of today's college students began using computers between the ages of 5 and 8. If a college has 3,500 students, how many of the students began using computers between the ages of 5 and 8?

4. EXERCISE A paper published in a medical journal reported that about $\frac{11}{25}$ of girls ages 16 to 17 do not exercise at all. The entire study consisted of about 2,500 girls. About how many did not exercise?

5. ANIMALS Catherine walks her dog $\frac{3}{4}$ mile every day. How far does she walk each week?

6. MUSIC If you practice a musical instrument each day for $\frac{2}{3}$ of an hour, how many hours of practice would you get in each week?

5-8 Word Problem Practice

Multiplying Mixed Numbers

FOOD For Exercises 1–3, use the table. The table shows Keith's food options for a 7-day outdoor survival course.

Food Options for 7-day Outdoor Survival Course	
peanut butter	1 plastic jar = $4\frac{3}{5}$ cups
dried noodles/rice	$14\frac{2}{3}$ cups
dried fruit/nuts	$6\frac{1}{6}$ cups
concentrated juice boxes	8 boxes = $16\frac{1}{4}$ cups
beef jerky	$3\frac{1}{3}$ cups
powdered milk	1 box = $8\frac{4}{5}$ cups
dehydrated soup	5 packages = $15\frac{2}{3}$ cups
canned tuna/meat	4 cans = $5\frac{3}{5}$ cups

1. Keith wants to divide his tuna over the seven-day course. How many cups of tuna meat can Keith plan on consuming each day?

2. Keith would like to bring enough concentrated juice in order to have $2\frac{1}{4}$ cups available per day. How much juice does he need and is 8 boxes of concentrated juice enough?

3. Six other students have been advised to bring the same menu on the course. How many cups of dried fruits and nuts will the students be bringing all together?

4. MEASUREMENT Bill wants to put a large mural on a wall that is $9\frac{1}{3}$ feet long and $8\frac{1}{8}$ feet wide. Find the area of the wall. If the mural is 100 square feet, will it fit on the wall?

5. PAINTING Pam is mixing $3\frac{1}{5}$ batches of paint. If one batch calls for $2\frac{3}{4}$ tablespoons of detergent to add to the tempera powder, how many tablespoons of detergent will Pam need?

6. COOKING To make a batch of fruit punch, Steve needs $2\frac{2}{3}$ cups blackberry juice. If he wants to make $2\frac{3}{4}$ batches of punch, how many cups of blackberry juice will he need?

5-9 Word Problem Practice

Dividing Fractions

1. **PIZZA** Norberto has $\frac{9}{10}$ of a pizza. The pizza will be divided equally among 6 people. How much will each person get?	2. **CARPENTRY** Laura wants to cut a board into three equal pieces. The board is $\frac{5}{8}$ feet long. How long will each piece be?
3. **PETS** Errol uses $\frac{1}{3}$ can of wet dog food for his dog, Muddy, each day. How many servings will he get from 5 cans of dog food?	4. **ICE CREAM** Julia ate $\frac{1}{2}$ pint of mint chocolate chip ice cream. Mark ate $\frac{3}{4}$ pint of malt ice cream. How many times more ice cream did Mark eat?
5. **GARDENING** Talia wants to give away 6 bundles of rosemary from her herb garden. If she has $\frac{1}{2}$ pound of rosemary, how much will each bundle weigh?	6. **SCHOOL** Kirsten has $\frac{3}{4}$ hour left to finish 5 math problems on the test. How much time does she have to spend on each problem?
7. **FOOD** Joe has $\frac{1}{2}$ of a cake he would like to split among 3 people. What part of the cake will each person get?	8. **INTERNET** $\frac{3}{4}$ of college students use the Internet more than the library. $\frac{9}{100}$ use the library more. How many times more students use the Internet?