

**RETEACH MATH WORK**  
**(BLUE PAGES TO SUPPLEMENT**  
**GREEN PAGES)**

Name \_\_\_\_\_

Reteaching

1-1

# Thousands

Use a place-value chart to help you write a number in standard form.

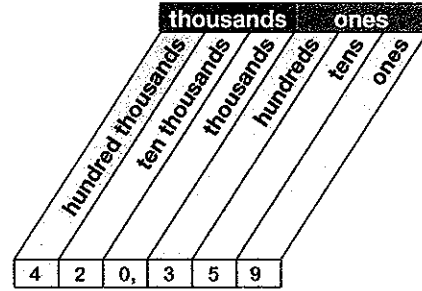
Write four hundred twenty thousand, three hundred fifty-nine in standard form.

**Step 1:** Write 420 in the thousands period.

**Step 2:** Write 359 in the ones period.

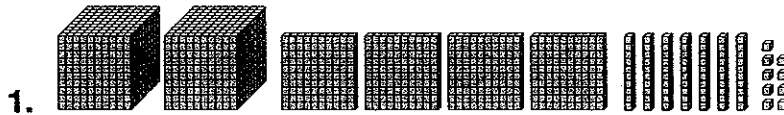
The standard form is 420,359.

Each digit in 420,359 has a different *place value* and *value*. The *place value* of the digit 3 is the hundreds place. This digit has a *value* of 300.



Reteaching 1-1

Write each number in standard form.



- \_\_\_\_\_
- 7 ten thousands + 5 thousands + 8 hundreds + 1 ten + 0 ones \_\_\_\_\_

Write the word form and tell the value of the underlined digit for each number.

3. 4,632 \_\_\_\_\_  
\_\_\_\_\_

4. 7,129 \_\_\_\_\_  
\_\_\_\_\_

5. 13,572 \_\_\_\_\_  
\_\_\_\_\_

6. **Number Sense** Write a six-digit number with a 5 in the ten thousands place and a 2 in the ones place. \_\_\_\_\_

Name \_\_\_\_\_

Teaching Tool

4

# Place Value Helper

hundreds	tens	ones	tenths	hundredths
		.		
		.		
		.		
		.		
		.		

THOUSANDS				ONES	
hundred thousands	ten thousands	thousands	hundreds	tens	ones

BILLIONS			MILLIONS			THOUSANDS			ONES		
hundred billions	ten billions	billions	hundred millions	ten millions	millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

Name \_\_\_\_\_

Practice

**1-3**

# Comparing and Ordering Whole Numbers

Compare. Write  $>$  or  $<$  for each  $\bigcirc$ .

1. 2,854,376  $\bigcirc$  2,845,763

2. 6,789  $\bigcirc$  9,876

3. 59,635  $\bigcirc$  59,536

4. 29,374,125  $\bigcirc$  30,743,225

Order the numbers from least to greatest.

5. 45,859,211   4,936,211   43,958,211

\_\_\_\_\_

6. **Number Sense** Write three numbers that are greater than 1,543,000 but less than 1,544,000.

\_\_\_\_\_

7. Put the planets in order from the one closest to the sun to the one farthest from the sun.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**The Five Closest Planets to the Sun**

Planet	Distance (miles)
Earth	93,000,000
Jupiter	483,000,000
Mars	142,000,000
Mercury	36,000,000
Venus	67,000,000

8. Which number has the greatest value?

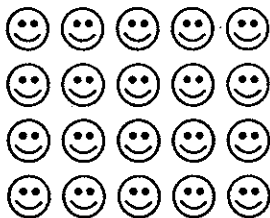
**A** 86,543,712    **B** 82,691,111    **C** 85,381,211    **D** 86,239,121

9. **Writing to Explain** Tell how you could use a number line to determine which of two numbers is greater.

\_\_\_\_\_  
\_\_\_\_\_

Practice 1-3

# Meanings of Multiplication



There are 4 rows of 5.

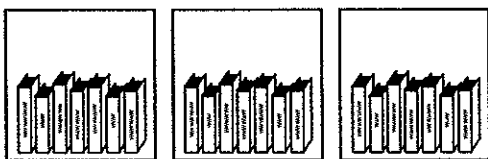
Addition sentence:

$$5 + 5 + 5 + 5 = 20$$

Multiplication sentence:

$$4 \times 5 = 20$$

There are 3 boxes. There are 7 books in each box.



There are 3 groups of 7.

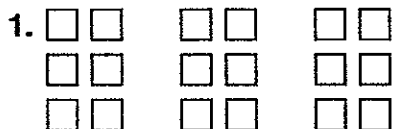
Addition sentence:

$$7 + 7 + 7 = 21$$

Multiplication sentence:

$$3 \times 7 = 21$$

Write an addition sentence and a multiplication sentence for each picture.



\_\_\_\_\_



\_\_\_\_\_

Write a multiplication sentence for each addition sentence.

3.  $10 + 10 + 10 + 10 = 40$

\_\_\_\_\_

4.  $3 + 3 + 3 + 3 + 3 + 3 = 18$

\_\_\_\_\_

5. **Number Sense** Explain how multiplication can help you find  $6 + 6 + 6$ .

\_\_\_\_\_

Name \_\_\_\_\_

# Patterns for Facts

## Pattern

All multiples of two are even numbers.

All multiples of 5 end in 0 or 5.

For all multiples of nine, the sum of the digits is always a multiple of 9.

## Example

2, 18, 44

25, 100, 220

27  $2 + 7 = 9$

63  $6 + 3 = 9$

1. 
$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

13. How many baseball cards are in 4 packages?

\_\_\_\_\_

14. How many stickers do you get if you buy 9 packages?

\_\_\_\_\_

15. How many coupons do you get if you buy 7 packages?

\_\_\_\_\_

Item	Number in Package
Baseball cards	5
Stickers	2
Coupons	9

Name \_\_\_\_\_

# Multiplication Properties

You can use the Properties of Multiplication to help you find products.

## Commutative Property of Multiplication:

You can multiply any two numbers in any order.

$$2 \times 3 = 3 \times 2$$

## Identity Property of Multiplication

When you multiply any number by 1, the product is that number.

$$7 \times 1 = 7$$

## Zero Property of Multiplication

When you multiply any number by 0, the product is also 0.

$$3 \times 0 = 0$$

Reteaching 3-3

- 
- |                                  |                                  |
|----------------------------------|----------------------------------|
| 1. $7 \times 3 = 3 \times$ _____ | 2. $4 \times 0 =$ _____          |
| 3. $5 \times 4 = 4 \times$ _____ | 4. $2 \times 1 =$ _____          |
| 5. $0 \times 7 =$ _____          | 6. $8 \times 3 = 3 \times$ _____ |
| 7. $9 \times 1 = 1 \times$ _____ | 8. $1 \times 5 =$ _____          |

9. **Number Sense** How do you know that  $35 \times 5 = 5 \times 35$  without finding products?

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10. **Writing to Explain** Explain how you know that in  $? \times 6,273 = 6,273$ , the ? will be 1.

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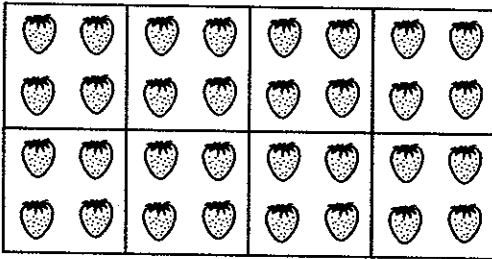
# Meanings of Division

When you divide, you separate things into equal groups.

Doris is making 8 box lunches, each with the same number of strawberries. She has a total of 32 strawberries. How many strawberries should go in each lunch?

**What you think:** Doris will have to place an equal number of strawberries in each box. She must put 32 strawberries into 8 equal groups. How many strawberries are in each group?

**What you show:** 8 equal groups



32 strawberries divided into 8 separate groups leaves 4 strawberries in each group.

**What you write:**  $32 \div 8 = 4$

32 is the dividend, the number that is being divided.

8 is the divisor, the number the dividend is being divided by.

4 is the quotient, or the answer to the division problem.

Each lunch should have 4 strawberries.

Draw pictures to solve each problem.

1. You put 15 marbles into 3 groups.  
How many marbles are in each group?

\_\_\_\_\_

2. You need to put 20 ice cubes into 5 glasses. How many cubes should go into each glass?

\_\_\_\_\_

Name \_\_\_\_\_

Practice

**4-2**

# Relating Multiplication and Division

Complete each fact family.

1.  $7 \times \underline{\hspace{2cm}} = 42$

2.  $9 \times \underline{\hspace{2cm}} = 36$

$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 42$

$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 36$

$42 \div 6 = \underline{\hspace{2cm}}$

$36 \div 4 = \underline{\hspace{2cm}}$

$42 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

$36 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

Write a fact family for each set of numbers.

3. 6, 3, 18

\_\_\_\_\_

4. 5, 5, 25

\_\_\_\_\_

5. **Reasoning** Why does the fact family for 81 and 9 have only two number sentences?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. Which number sentence completes the fact family?

$9 \times 6 = 54$     $54 \div 9 = 6$     $54 \div 6 = 9$

**A**  $9 \times 9 = 81$    **B**  $6 \times 9 = 54$    **C**  $6 \times 6 = 36$    **D**  $8 \times 6 = 48$

7. **Writing to Explain** Find two ways to divide 16 evenly. Explain.

\_\_\_\_\_

\_\_\_\_\_

Practice 4-2

Name \_\_\_\_\_

## Multiplying by Multiples of 10 and 100

Patterns can help you multiply by numbers that are multiples of 10 or 100.

$3 \times 5 = 15$

$2 \times 4 = 8$

$5 \times 7 = 35$

$3 \times 50 = 150$

$2 \times 40 = 80$

$5 \times 70 = 350$

$3 \times 500 = 1,500$

$2 \times 400 = 800$

$5 \times 700 = 3,500$

To find each of the products above, first complete the basic multiplication fact, then write the same number of zeros seen in the factor that is a multiple of 10. For example:

$3 \times 500 = 1,500$

First find  $3 \times 5$ .

$3 \times 5 = 15$

Then, count the number of zeros in the multiple of 10.

**500 has 2 zeros.**

Write 2 zeros to form the product.

**1,500**

Find each product. Use mental math.

1.  $8 \times 80 =$  \_\_\_\_\_

2.  $6 \times 60 =$  \_\_\_\_\_

3.  $7 \times 90 =$  \_\_\_\_\_

4.  $5 \times 200 =$  \_\_\_\_\_

5.  $3 \times 40 =$  \_\_\_\_\_

6.  $7 \times 200 =$  \_\_\_\_\_

7.  $500 \times 6 =$  \_\_\_\_\_

8.  $600 \times 9 =$  \_\_\_\_\_

9.  $3 \times 800 =$  \_\_\_\_\_

10.  $600 \times 7 =$  \_\_\_\_\_

11. **Number Sense** To find  $8 \times 600$ , multiply 8 and 6, then write \_\_\_ zeros to form the product.

Name \_\_\_\_\_

## Using Mental Math to Multiply

You can multiply mentally by using compatible numbers or breaking apart numbers.

Find  $4 \times 19$  using compatible numbers.

**Step 1:** Substitute a compatible number for 19 that is easy to multiply by 4.

$$\begin{array}{r} 19 \times 4 \\ \downarrow \quad \text{Add 1 to make 20.} \\ 20 \times 4 \end{array}$$

**Step 2:** Find the new product.

$$20 \times 4 = 80$$

**Step 3:** Now adjust. Subtract 1 group of 4.

$$80 - 4 = 76.$$

$$4 \times 19 = 76$$

Find  $2 \times 76$  by breaking apart numbers.

**Step 1:** Use place value to break apart

76 into 70 and 6.

$$2 \times 76$$

**Step 2:** Think of  $2 \times 76$  as

$$2 \times 70 \text{ and } 2 \times 6.$$

$$2 \times 70 + 2 \times 6$$

$$140 + 12$$

**Step 3:** Add the partial products to get the total.

$$140 + 12 = 152$$

$$2 \times 76 = 152$$

Use mental math to find each product.

1.  $5 \times 32 =$  \_\_\_\_\_

2.  $7 \times 53 =$  \_\_\_\_\_

3.  $66 \times 2 =$  \_\_\_\_\_

4.  $92 \times 4 =$  \_\_\_\_\_

5.  $31 \times 8 =$  \_\_\_\_\_

6.  $4 \times 29 =$  \_\_\_\_\_

7.  $18 \times 5 =$  \_\_\_\_\_

8.  $6 \times 49 =$  \_\_\_\_\_

9.  $68 \times 3 =$  \_\_\_\_\_

10.  $4 \times 19 =$  \_\_\_\_\_

11.  $17 \times 5 =$  \_\_\_\_\_

12.  $31 \times 6 =$  \_\_\_\_\_

13. **Algebra** In  $a \times b = 120$ ,  $a$  is a one-digit number and  $b$  is a two-digit number. What numbers could  $a$  and  $b$  represent?

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

Reteaching

**5-3**

# Using Rounding to Estimate

You can use rounding or compatible numbers to estimate products.

Estimate  $7 \times 28$ .

Using **rounding numbers**

Round 28 to 30.

$$7 \times 30$$

$$7 \times 30 = 210$$

Using **compatible numbers**

Replace 28 with 25.

$$7 \times 25$$

$$7 \times 25 = 175$$

Estimate each product.

1.  $6 \times 88$  is close to  $6 \times$  \_\_\_\_\_

2.  $59 \times 4$  is close to \_\_\_\_\_  $\times 4$

3.  $7 \times 31$  \_\_\_\_\_

4.  $38 \times 5$  \_\_\_\_\_

5.  $21 \times 6$  \_\_\_\_\_

6.  $3 \times 53$  \_\_\_\_\_

7.  $5 \times 790$  \_\_\_\_\_

8.  $488 \times 6$  \_\_\_\_\_

9. **Number Sense** Estimate to tell if  $5 \times 68$  is greater than or less than 350. Tell how you decided.

\_\_\_\_\_

\_\_\_\_\_

10. Estimate how many of Part C would be made in 4 months.

\_\_\_\_\_

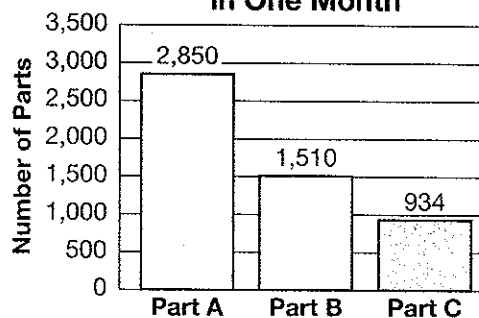
11. Estimate how many of Part B would be made in 3 months.

\_\_\_\_\_

12. Estimate how many of Part A would be made in 9 months.

\_\_\_\_\_

**Parts Made at a Factory in One Month**



Reteaching 5-3

Name \_\_\_\_\_

Reteaching  
**7-1**

## Using Mental Math to Multiply 2-Digit Numbers

You can multiply with mental math by using basic facts and patterns.

Example A:  $5 \times 5 = 25$

$5 \times 50 = 250$

The product contains the number of zeros in each factor.

Example B:  $5 \times 6 = 30$

$5 \times 60 = 300$

$50 \times 60 = 3,000$

$50 \times 600 = 30,000$

When the product of a basic fact includes a zero, such as  $5 \times 6 = 30$ , that zero is not part of the pattern.

Multiply. Use mental math.

1.  $20 \times 20 =$

\_\_\_\_\_

2.  $50 \times 10 =$

\_\_\_\_\_

3.  $40 \times 40 =$

\_\_\_\_\_

4.  $30 \times 80 =$

\_\_\_\_\_

5.  $60 \times 600 =$

\_\_\_\_\_

6.  $50 \times 900 =$

\_\_\_\_\_

7.  $70 \times 300 =$

\_\_\_\_\_

8.  $70 \times 600 =$

\_\_\_\_\_

9.  $40 \times 500 =$

\_\_\_\_\_

10. **Number Sense** Tell what numbers go in the blanks.

To find  $90 \times 300$ , multiply \_\_\_\_\_ and \_\_\_\_\_.

Then write \_\_\_\_\_ zeros at the end.

Name \_\_\_\_\_

Reteaching

**7-2**

# Estimating Products

Estimate  $11 \times 94$ .

## Using rounding

Round 11 to 10.

Round 94 to 90.

$$10 \times 90 = 900$$

$11 \times 94$  is about 900.

## Using compatible numbers

Replace 11 with 10.

Replace 94 with 100.

$$10 \times 100 = 1,000$$

$11 \times 94$  is about 1,000.

Reteaching 7-2

Use rounding to estimate each product.

1.  $62 \times 82$

\_\_\_\_\_

2.  $59 \times 48$

\_\_\_\_\_

3.  $74 \times 302$

\_\_\_\_\_

4.  $47 \times 790$

\_\_\_\_\_

5.  $498 \times 63$

\_\_\_\_\_

6.  $687 \times 38$

\_\_\_\_\_

7.  $18 \times 412$

\_\_\_\_\_

8.  $385 \times 75$

\_\_\_\_\_

9.  $62 \times 147$

\_\_\_\_\_

Use compatible numbers to estimate each product.

10.  $32 \times 83$

\_\_\_\_\_

11.  $37 \times 22$

\_\_\_\_\_

12.  $51 \times 296$

\_\_\_\_\_

13.  $65 \times 34$

\_\_\_\_\_

14.  $108 \times 81$

\_\_\_\_\_

15.  $43 \times 620$

\_\_\_\_\_

16.  $426 \times 71$

\_\_\_\_\_

17.  $59 \times 701$

\_\_\_\_\_

18.  $87 \times 87$

\_\_\_\_\_

19. **Number Sense** To estimate the product of  $37 \times 99$ , Chris multiplied  $40 \times 100$ . Tell how you know if this is an underestimate or an overestimate.

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

Reteaching

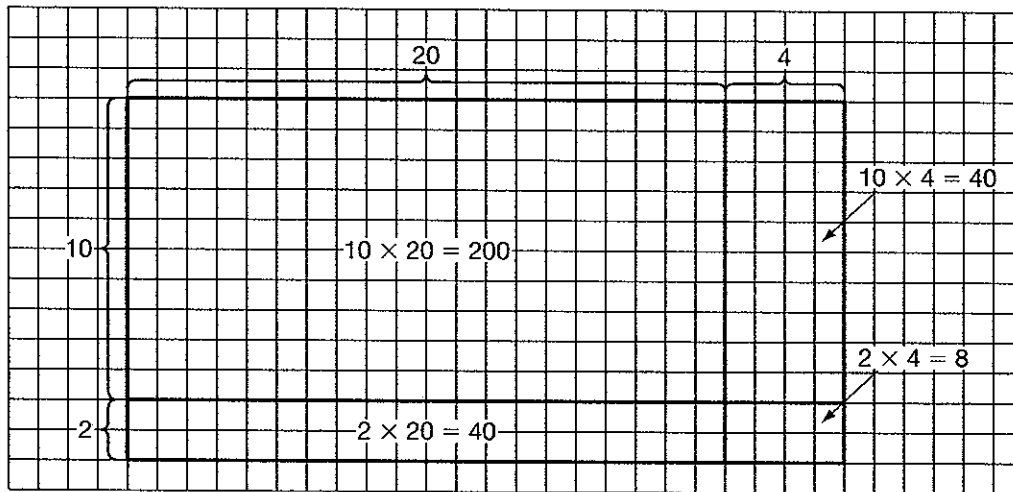
**7-3**

# Arrays and an Expanded Algorithm

Here is how to find the product of  $12 \times 24$  using an array.

Draw a rectangle 24 units long by 12 units wide.

Divide the rectangle by tens and ones for each factor. Find the number of squares in each smaller square.

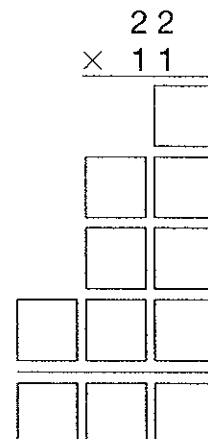
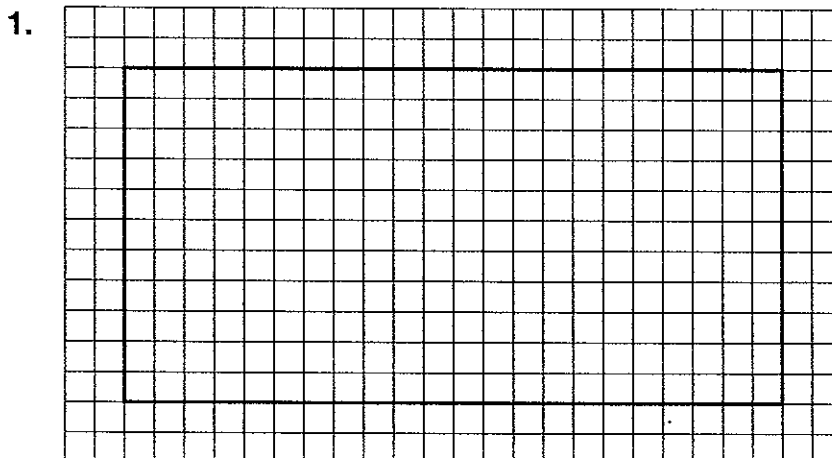


Then add the numbers of the squares in the four rectangles:

$$200 + 40 + 40 + 8 = 288$$

$$\text{So, } 12 \times 24 = 288.$$

Divide the rectangle by tens and ones for each factor. Then complete the calculation.



Name \_\_\_\_\_

Practice

**7-5**

## Multiplying 2-Digit by 2-Digit Numbers

1. 
$$\begin{array}{r} 54 \\ \times 17 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 36 \\ \times 20 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 53 \\ \times 12 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 48 \\ \times 46 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 37 \\ \times 83 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 62 \\ \times 17 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 91 \\ \times 49 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 28 \\ \times 56 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 70 \\ \times 39 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 58 \\ \times 90 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 97 \\ \times 42 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 64 \\ \times 88 \\ \hline \end{array}$$

13. A carton holds 24 bottles of juice. How many juice bottles are in 15 cartons?
- \_\_\_\_\_

14. How much do 21 bushels of sweet corn weigh?
- \_\_\_\_\_

Vegetable	Weight of 1 Bushel
Asparagus	24 lb
Beets	52 lb
Carrots	50 lb
Sweet corn	35 lb

15. How much do 18 bushels of asparagus weigh?
- \_\_\_\_\_

16. How much more do 13 bushels of beets weigh than 13 bushels of carrots?
- \_\_\_\_\_

17. Which of the following is a reasonable answer for  $92 \times 98$ ?

A 1,800

B 9,000

C 10,000

D 90,000

18. **Writing to Explain** Garth is multiplying  $29 \times 16$ . He has 174 after multiplying the ones and 290 after multiplying the tens. Explain how Garth can find the final product.
- \_\_\_\_\_

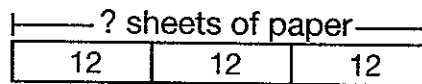
# Problem Solving: Two-Question Problems

**Read and Understand**

**Problem 1:** Gina gave 3 sheets of paper to each of the 12 students in her class. How many sheets of paper did she give out?

**Problem 2:** Each sheet of paper had 3 paper clips attached to it. How many paper clips did she give out?

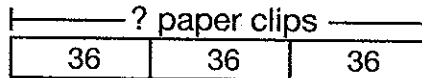
Answer Problem 1 first.



12 students  $\times$  3 sheets of paper = 36 sheets of paper  
Gina gave out 36 sheets of paper.

**Plan and Solve**

Use the answer from Problem 1 to solve Problem 2.



36 sheets of paper  $\times$  3 paper clips = 108 paper clips  
Gina gave out 108 paper clips.

Solve. Use the answer from Problem 1 to solve Problem 2.

- Problem 1:** April made 16 baskets and glued 5 flowers on each one. How many flowers did she use altogether?

**Problem 2:** Each flower April used had 8 petals. How many petals were there on all the flowers she used?

- Problem 1:** Jorge washed cars for four hours on Saturday. In the first hour, he washed 4 cars. In the second hour, he washed 9 cars. In the third hour, he washed 12 cars. How many cars did he wash altogether in the first three hours?


**Problem 2:** Jorge washed the same number of cars in the fourth hour as he did in the first three hours combined. How many cars did he wash altogether in four hours?

Reteaching 7-7

# Model Division

Use models to understand division.

Use money to find  $14 \div 5$ . Place 14 one-dollar bills in groups of 5.



Look at the picture.  
It shows how to make as many groups of 5 as possible.  
Ask yourself how many groups of 5 are there? You should count 2  
Look at the one-dollar bills left over. Count them.  
How many one-dollar bills are left over? 4

$14 \div 5 = 2 R4$

**Divide 13 into groups with 3 in each group.**

**Use the counter below for items 1–3.**



1. Circle as many groups of 3 counters as you can.

How many groups of 3 are there? \_\_\_\_\_

2. How many are left over? \_\_\_\_\_

3. What is the quotient? \_\_\_\_\_

4. Draw a picture to show 10 divided equally into 2 groups.

5. How many are in each equal group? \_\_\_\_\_


6. How many are left over? \_\_\_\_\_

7. What is the quotient? \_\_\_\_\_

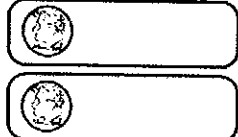
# Divide With Remainders

Divide  $25 \div 2$ .


You can use dimes and pennies to show 25 cents.



Divide the money into 2 equal groups. Put 1 dime in each group.



Put two pennies in each group. There is one penny left over.



Count the dimes and pennies in one group. This is the quotient. The penny left over is the remainder.

$$\begin{array}{r}
 12 \text{ R}1 \\
 \text{So, } 2 \overline{)25} \quad \text{or } 25 \div 2 = 12 \text{ R}1 \\
 \underline{-20} \\
 05 \\
 \underline{-4} \\
 1
 \end{array}$$

Divide. Tell if there is a remainder.

- |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|
| 1. $3 \overline{)94}$ | 2. $8 \overline{)88}$ | 3. $2 \overline{)69}$ |
| 4. $57 \div 5$ _____  | 5. $46 \div 2$ _____  | 6. $66 \div 3$ _____  |
| 7. $23 \div 3$ _____  | 8. $85 \div 5$ _____  | 9. $47 \div 4$ _____  |

Name \_\_\_\_\_

# Dividing 2-Digit by 1-Digit Numbers

You can find two-digit quotients by breaking apart the problem and dividing tens, then ones.

Find  $85 \div 5$ .

Estimate:  $100 \div 5 = 20$ .

$$\begin{array}{r} 17 \\ 5 \overline{)85} \\ \underline{-5} \phantom{0} \\ 35 \\ \underline{-35} \\ 0 \end{array}$$

Check:  $17 \times 5 = 85$ .

The answer checks.

Find  $55 \div 3$ .

Estimate:  $60 \div 3 = 20$ .

$$\begin{array}{r} 18 \text{ R}1 \\ 3 \overline{)55} \\ \underline{-3} \phantom{0} \\ 25 \\ \underline{-24} \\ 1 \end{array}$$

Check:  $18 \times 3 = 54$ .

$54 + 1 = 55$

The answer checks.

Find  $83 \div 7$ .

Estimate:  $84 \div 7 = 12$ .

$$\begin{array}{r} 11 \text{ R}6 \\ 7 \overline{)83} \\ \underline{-7} \phantom{0} \\ 13 \\ \underline{-7} \\ 6 \end{array}$$

Check:  $11 \times 7 = 77$ .

$77 + 6 = 83$

The answer checks.

Find the missing values.

1.

$$\begin{array}{r} 2 \phantom{0} \\ 3 \overline{)81} \\ \underline{\phantom{0}} \\ \phantom{0} 1 \\ \underline{\phantom{0}} \phantom{0} \\ 0 \end{array}$$

2.

$$\begin{array}{r} 1 \phantom{0} \\ 4 \overline{)76} \\ \underline{\phantom{0}} \\ \phantom{0} \phantom{0} \\ \underline{\phantom{0}} \phantom{0} \\ 0 \end{array}$$

3.  $3 \overline{)91}$

4.  $4 \overline{)86}$

5.  $2 \overline{)75}$

Name \_\_\_\_\_

# Deciding Where to Start Dividing

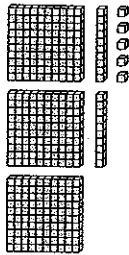
Sometimes there are not enough hundreds to divide by.  
Sometimes you have to break up the hundreds into 10 tens.

Find  $325 \div 5$ .

Estimate  $300 \div 5 = 60$ .

Try to divide the hundreds.

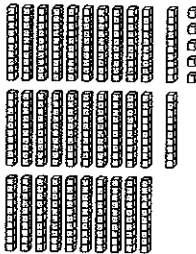
$$5 \overline{)325}$$



5 does not divide into 3.  
The 3 hundreds now have to be changed to 30 tens.

Divide the tens.

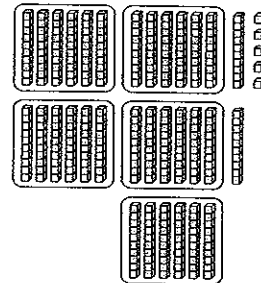
$$\begin{array}{r} 6 \\ 5 \overline{)325} \\ - \underline{30} \quad 30 \text{ tens} \\ \quad 2 \end{array}$$



With 32 tens, 6 tens can go into each one of the 5 groups.

Now divide the ones.

$$\begin{array}{r} 65 \\ 5 \overline{)325} \\ - \underline{30} \quad 30 \text{ tens} \\ \quad 25 \\ - \underline{25} \quad 2 \text{ tens and} \\ \quad \quad 0 \quad 5 \text{ ones, no} \\ \quad \quad \quad \text{remainder} \end{array}$$



Each of the five groups has 6 tens and 5 ones.

Reteaching 8-7

Find the missing values in the problems below.

1. 
$$\begin{array}{r} 83R \square \\ 4 \overline{)334} \\ - \square \square \\ \hline \square \square \\ - \underline{12} \\ \hline \square \end{array}$$

2. 
$$\begin{array}{r} \square \square R4 \\ 6 \overline{)148} \\ - \square \square \\ \hline \square \square \\ - \square 4 \\ \hline \square \end{array}$$

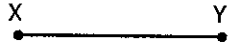
3.  $5 \overline{)125}$

4.  $8 \overline{)418}$

Name \_\_\_\_\_

# Lines, Rays, and Angles

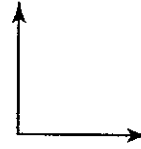
Here are some important geometric terms.



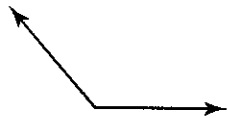
**Line segment**  
 A part of a line. It has two endpoints. This is line segment  $\overline{XY}$ .



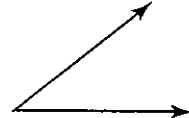
**Ray**  
 A part of a line. It has one endpoint and goes on and on in one direction. This is ray  $\overrightarrow{AB}$ .



**Right angle**  
 A square corner.



**Obtuse angle**  
 Greater than a right angle.



**Acute angle**  
 Less than a right angle.



**Straight angle**  
 Forms a straight line.

Use geometric terms to describe what is shown. Be as specific as possible.

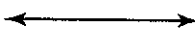
1.



\_\_\_\_\_

\_\_\_\_\_

2.



3.

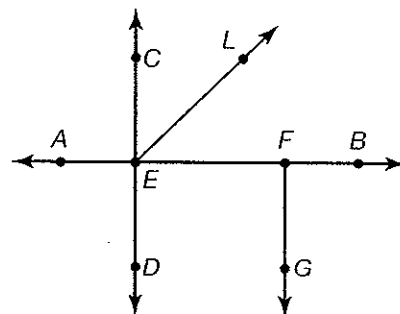


4. Name three different rays.

\_\_\_\_\_

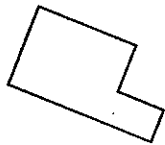
5. Name two different line segments.

\_\_\_\_\_

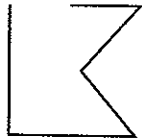


# Polygons

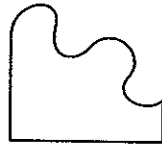
Polygons are closed plane figures that are made up of line segments. All of the line segments connect. All of the sides of a polygon are straight, not curved.



**Polygon**  
Closed figure  
made of  
line segments.

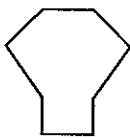


**Not a polygon**  
Not a closed  
figure.



**Not a polygon**  
Not all of the  
sides are line  
segments.

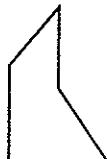
Here are some common polygons. Note that the sides of polygons do not all have to be the same length.



**Octagon**  
8 sides



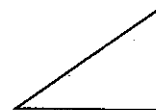
**Hexagon**  
6 sides



**Pentagon**  
5 sides



**Quadrilateral**  
4 sides



**Triangle**  
3 sides

Draw an example of each type of polygon.  
How many sides and vertices does each  
one have?

1. Hexagon

\_\_\_\_\_

2. Quadrilateral

\_\_\_\_\_

3. Pentagon

\_\_\_\_\_

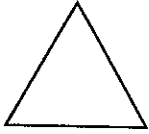
4. Octagon

\_\_\_\_\_

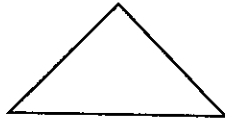
Name \_\_\_\_\_

Reteaching  
**9-5**

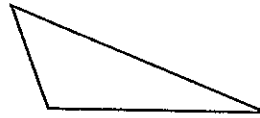
# Triangles



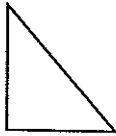
**Equilateral triangle**  
All sides are the same length.



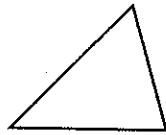
**Isosceles triangle**  
At least two sides are the same length.



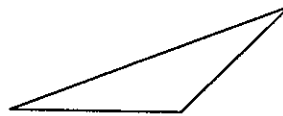
**Scalene triangle**  
No sides are the same length.



**Right triangle**  
One angle is a right angle.



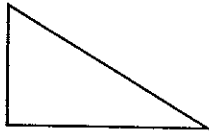
**Acute triangle**  
All three angles are acute angles.



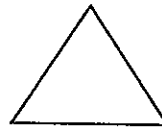
**Obtuse triangle**  
One angle is an obtuse angle.

Classify each triangle by its sides and then by its angles.

1.



2.



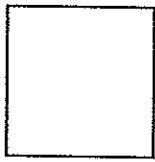
3.



4.



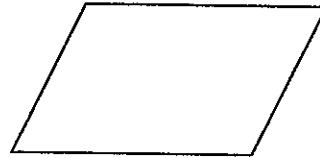
# Quadrilaterals



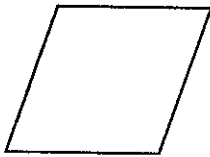
**Square**  
There are four right angles. All sides are the same length.



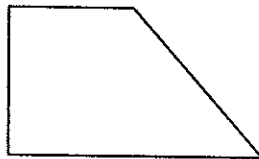
**Rectangle**  
There are four right angles.



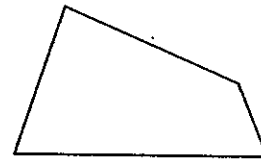
**Parallelogram**  
Opposite sides are parallel.



**Rhombus**  
Opposite sides are parallel and all sides are the same length.



**Trapezoid**  
There is only one pair of parallel sides.

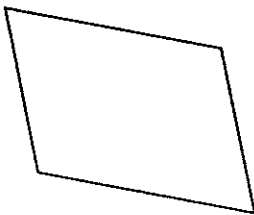


**Quadrilateral**  
A polygon with 4 sides.

Reteaching 9-6

Write the name of each quadrilateral.

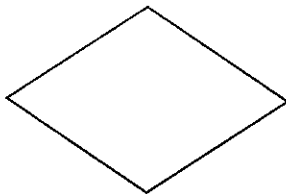
1.



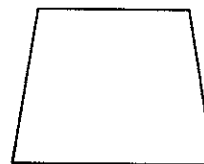
2.



3.



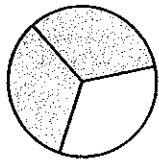
4.



Name \_\_\_\_\_

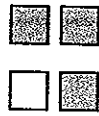
# Regions and Sets

The top number, the numerator, tells the number of equal parts described. The bottom number, the denominator, tells how many equal parts there are in all.



$\frac{2}{3}$  ← Numerator: 2 parts are shaded.  
 $\frac{2}{3}$  ← Denominator: There are 3 parts total.

$\frac{2}{3}$  of the circle is shaded.



$\frac{3}{5}$  ← Numerator: 3 parts are shaded.  
 $\frac{3}{5}$  ← Denominator: There are 5 parts total.

$\frac{3}{5}$  of the set is shaded.

Reteaching 10-1

Write a fraction for the part of the region that is shaded.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

Shade in the models to show each fraction.

5.  $\frac{5}{15}$

6.  $\frac{7}{9}$

7. **Reasoning** Tara says that  $\frac{1}{2}$  of a salad is always the same amount. Lynn says that it could be different amounts, depending on how large the salad is. Who is correct? Why?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

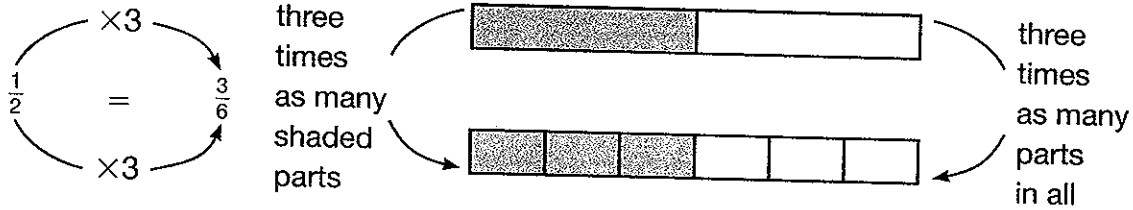
\_\_\_\_\_

# Equivalent Fractions

If two fractions name the same amount, they are called **equivalent fractions**.

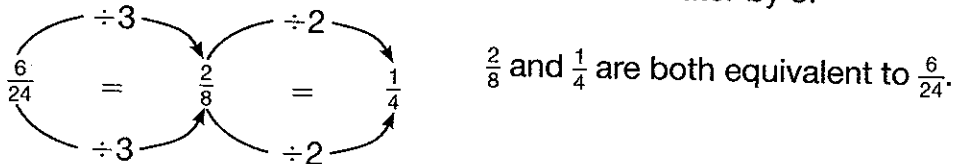
Are  $\frac{1}{2}$  and  $\frac{3}{6}$  equivalent fractions?

Multiply the numerator and denominator by the same number.



Use division to write a fraction that is equivalent to  $\frac{6}{24}$ .

Think of a number that is a factor of both 6 and 24. 3 is a factor of 6 and 24. Divide the numerator and the denominator by 3.



Find the missing number.

1.  $\frac{1}{4} = \frac{\square}{8}$       2.  $\frac{15}{20} = \frac{\square}{4}$       3.  $\frac{2}{7} = \frac{\square}{21}$       4.  $\frac{9}{27} = \frac{\square}{3}$

Multiply to find an equivalent fraction.

5.  $\frac{3}{10} = \underline{\hspace{2cm}}$       6.  $\frac{1}{2} = \underline{\hspace{2cm}}$       7.  $\frac{5}{6} = \underline{\hspace{2cm}}$       8.  $\frac{3}{4} = \underline{\hspace{2cm}}$

Divide to find an equivalent fraction.

9.  $\frac{10}{15} = \underline{\hspace{2cm}}$       10.  $\frac{9}{24} = \underline{\hspace{2cm}}$       11.  $\frac{21}{28} = \underline{\hspace{2cm}}$       12.  $\frac{25}{35} = \underline{\hspace{2cm}}$   
 13.  $\frac{8}{20} = \underline{\hspace{2cm}}$       14.  $\frac{9}{18} = \underline{\hspace{2cm}}$       15.  $\frac{8}{18} = \underline{\hspace{2cm}}$       16.  $\frac{15}{40} = \underline{\hspace{2cm}}$

Name \_\_\_\_\_

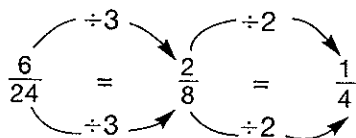
Reteaching

**10-5**

# Fractions in Simplest Form

Use division to write a fraction that is equivalent to  $\frac{6}{24}$ .

Think of a number that is a factor of both 6 and 24. 3 is a factor of 6 and 24. Divide the numerator and the denominator by 3. If you continue to divide until 1 is the only factor of both the numerator and denominator, you will find the fraction in **simplest form**.



$\frac{2}{8}$  and  $\frac{1}{4}$  are both equivalent to  $\frac{6}{24}$ .

Only  $\frac{1}{4}$  is in simplest form.

Find the missing number.

1.  $\frac{2}{8} = \frac{\square}{4}$  \_\_\_\_\_      2.  $\frac{15}{20} = \frac{\square}{4}$  \_\_\_\_\_      3.  $\frac{7}{21} = \frac{\square}{3}$  \_\_\_\_\_      4.  $\frac{9}{27} = \frac{\square}{3}$  \_\_\_\_\_

Write each fraction in simplest form.

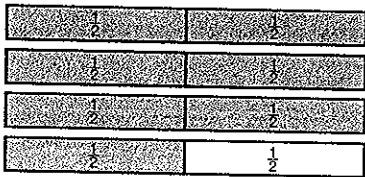
5.  $\frac{6}{10}$  \_\_\_\_\_      6.  $\frac{4}{10}$  \_\_\_\_\_      7.  $\frac{25}{30}$  \_\_\_\_\_      8.  $\frac{24}{32}$  \_\_\_\_\_
9.  $\frac{10}{15}$  \_\_\_\_\_      10.  $\frac{9}{24}$  \_\_\_\_\_      11.  $\frac{21}{28}$  \_\_\_\_\_      12.  $\frac{25}{35}$  \_\_\_\_\_
13.  $\frac{8}{20}$  \_\_\_\_\_      14.  $\frac{9}{18}$  \_\_\_\_\_      15.  $\frac{8}{18}$  \_\_\_\_\_      16.  $\frac{15}{40}$  \_\_\_\_\_
17.  $\frac{2}{18}$  \_\_\_\_\_      18.  $\frac{6}{24}$  \_\_\_\_\_      19.  $\frac{32}{34}$  \_\_\_\_\_      20.  $\frac{12}{26}$  \_\_\_\_\_

Reteaching 10-5

# Improper Fractions and Mixed Numbers

You can use fraction strips to write a mixed number as an improper fraction.

$3\frac{1}{2}$  of the model below is shaded.



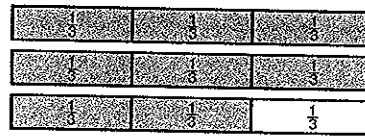
Into how many parts is each strip divided? 2. This is your denominator.

Count the shaded halves. There are 7. This is your numerator.

$3\frac{1}{2}$  is the same as the improper fraction  $\frac{7}{2}$ .

You can also use fraction strips to write an improper fraction as a mixed number.

$\frac{8}{3}$  of the model below is shaded.



How many strips are completely shaded? 2. This is your whole number.

What fraction of the third strip is shaded?  $\frac{2}{3}$ . This is your fraction.

$\frac{8}{3}$  is the same as the mixed number  $2\frac{2}{3}$ .

Reteaching 10-6

Write each mixed number as an improper fraction.

1.  $2\frac{1}{3}$  \_\_\_\_\_    2.  $4\frac{1}{5}$  \_\_\_\_\_    3.  $2\frac{3}{4}$  \_\_\_\_\_    4.  $5\frac{2}{6}$  \_\_\_\_\_

Write each improper fraction as a mixed number or a whole number.

5.  $\frac{13}{12}$  \_\_\_\_\_    6.  $\frac{50}{10}$  \_\_\_\_\_    7.  $\frac{23}{10}$  \_\_\_\_\_    8.  $\frac{17}{15}$  \_\_\_\_\_

9. **Writing to Explain** Is  $\frac{45}{5}$  equal to a whole number or a mixed number? Explain how you know.

\_\_\_\_\_

\_\_\_\_\_

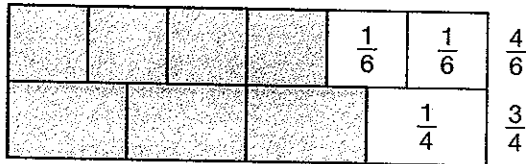
\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

## Comparing Fractions

Leanne wanted to compare  $\frac{4}{6}$  and  $\frac{3}{4}$ . She used fraction strips to help.



She compared the amounts that were shaded in each picture. Because the amount shaded in  $\frac{3}{4}$  is more than the amount shaded in  $\frac{4}{6}$ , she knew that  $\frac{3}{4}$  is greater than  $\frac{4}{6}$ .

So,  $\frac{3}{4} > \frac{4}{6}$ .

Write  $>$  or  $<$  for each  $\bigcirc$ . Use fraction strips or benchmark fractions to help.

1.  $\frac{5}{6} \bigcirc \frac{2}{3}$

2.  $\frac{1}{5} \bigcirc \frac{2}{8}$

3.  $\frac{9}{10} \bigcirc \frac{6}{8}$

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

5.  $\frac{8}{9} \bigcirc \frac{5}{10}$

6.  $\frac{2}{5} \bigcirc \frac{2}{6}$

7.  $\frac{6}{9} \bigcirc \frac{7}{9}$

8.  $\frac{2}{10} \bigcirc \frac{3}{5}$

The same number of students attended school all week.

Day	Fraction of students buying lunch
Monday	$\frac{1}{2}$
Tuesday	$\frac{2}{5}$
Wednesday	$\frac{3}{4}$
Thursday	$\frac{5}{8}$
Friday	$\frac{4}{6}$

9. Did more students buy lunch on Tuesday or on Wednesday?

\_\_\_\_\_

10. Did more students buy lunch on Thursday or on Friday?

\_\_\_\_\_

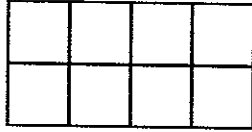
Reteaching 10-7

Name \_\_\_\_\_

Reteaching  
**14-1**

# Understanding Area

Area is the number of square units used to cover a certain amount of space.

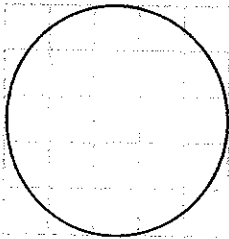


In the diagram above, it is possible to calculate the exact area by counting the number of squares or square units that make up the rectangle.

There are 8 squares in the figure.

The area of the figure is 8 square units.

It is also possible to estimate the area.

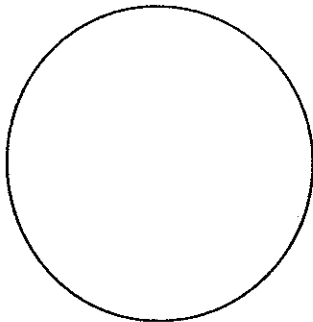


There are about 17 squares in the figure.

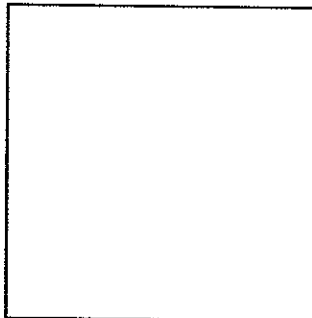
The area of the figure is about 17 square units.

Calculate the area of the figures below.

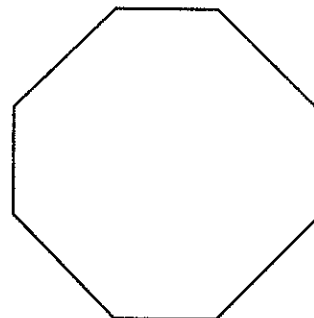
1.



2.



3.



Name \_\_\_\_\_

# Area of Squares and Rectangles

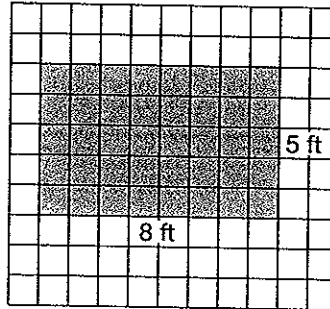
What is the area of this rectangle?

Use the formula  $A = \ell w$ :

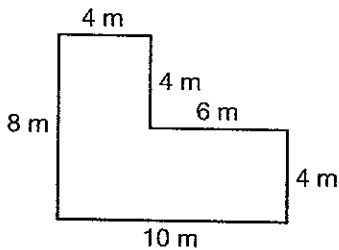
$$A = 8 \times 5$$

$$A = 40$$

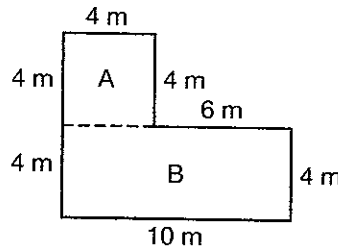
The area is 40 square feet.



What is the area of this figure?



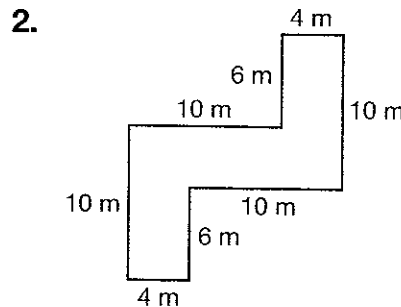
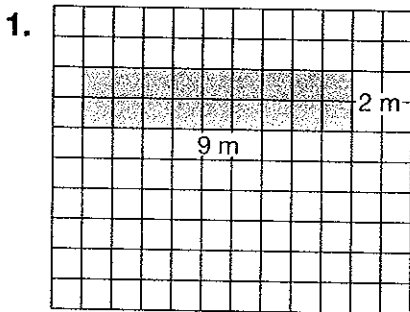
You can draw segments to divide the figure into rectangles. Then find the area of each rectangle and add.



Rectangle A	Rectangle B
$A = \ell w$	$A = \ell w$
$A = 4 \times 4$	$A = 4 \times 6$
$= 16$	$= 40$

$16 + 40 = 56$ , so the area of the original figure is 56 square meters.

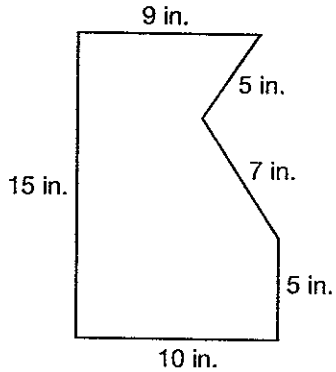
Find the area of each figure.



3. **Reasoning** The area of a rectangle is 56 square inches. The width of the rectangle is 7 in. What is the length? \_\_\_\_\_

# Perimeter

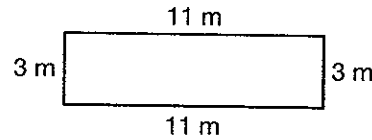
You can use addition to find the perimeter of a figure.



Add the lengths of the sides.

$$9 + 5 + 7 + 5 + 10 + 15 = 51 \text{ in.}$$

Sometimes you can use a formula to find the perimeter.



$$P = (2 \times \ell) + (2 \times w)$$

$\ell$  is the length and  $w$  is the width.

$$P = (2 \times \ell) + (2 \times w)$$

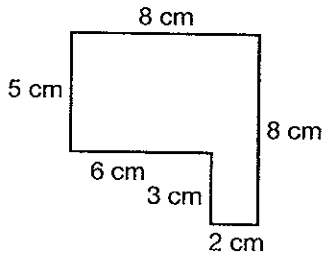
$$P = (2 \times 11) + (2 \times 3)$$

$$P = 22 + 6$$

$$P = 28 \text{ m}$$

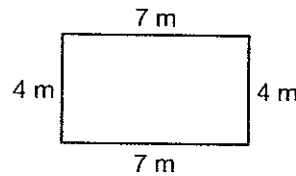
Find the perimeter of each figure.

1.



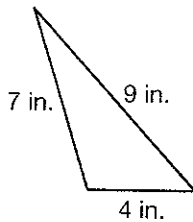
\_\_\_\_\_

2.



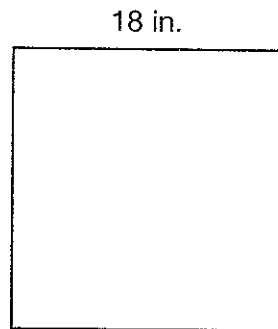
\_\_\_\_\_

3.



\_\_\_\_\_

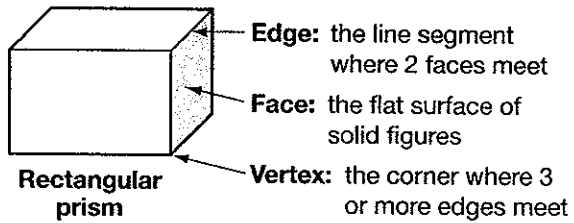
4.



\_\_\_\_\_

# Solids

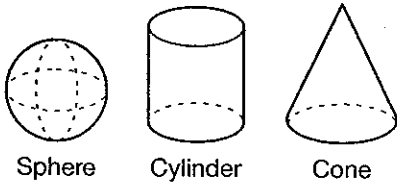
Solid figures have three dimensions: length, width, and height. Many solids have edges, faces, and vertices.



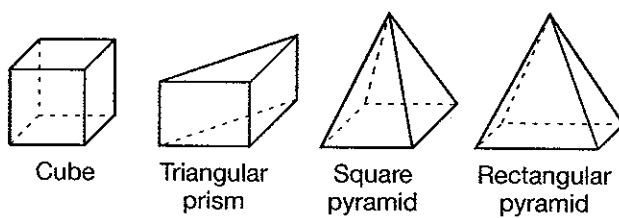
Rectangular prism

Spheres, cylinders, and cones have curved surfaces. Other solids have all flat surfaces.

**Curved Surfaces**



**Flat Surfaces**



Complete the table.

	<b>Solid Figure</b>	<b>Number of Faces</b>	<b>Number of Edges</b>	<b>Number of Vertices</b>	<b>Shape(s) of Faces</b>
1.	Rectangular prism				
2.	Cube				
3.	Triangular prism				
4.	Square pyramid				

5. **Reasoning** Compare rectangular pyramids and rectangular prisms. How are they alike?

---

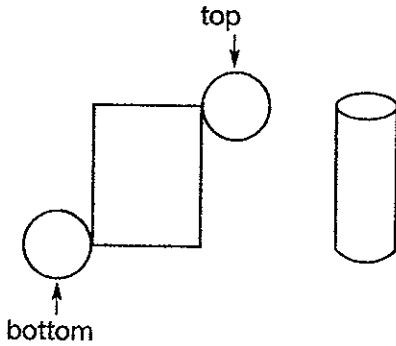


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# Views of Solids: Nets

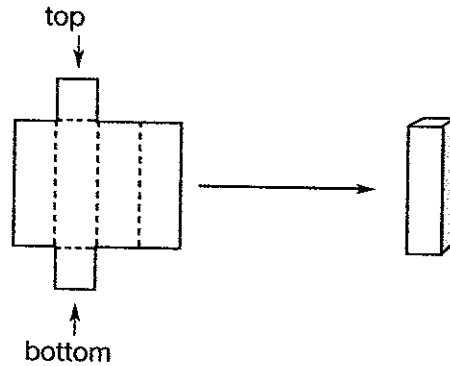
You can make models of solid figures by using patterns called **nets**.

Here is a net for a cylinder.



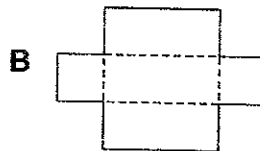
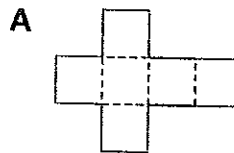
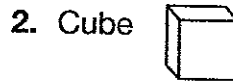
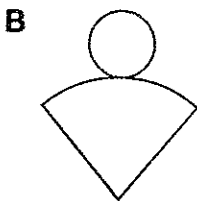
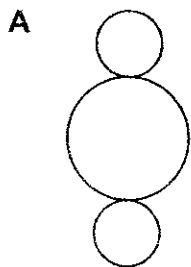
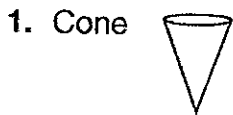
You can see the circles for the top and the bottom and the rectangle that makes up the side.

Here is a net for a rectangular prism. The dashed line segments show you where to fold. The solid line segments show you where to cut.



You can see 4 rectangles for the sides of the prism and the 2 squares for the top and bottom.

Circle the correct letter of the net for each solid.



Name \_\_\_\_\_

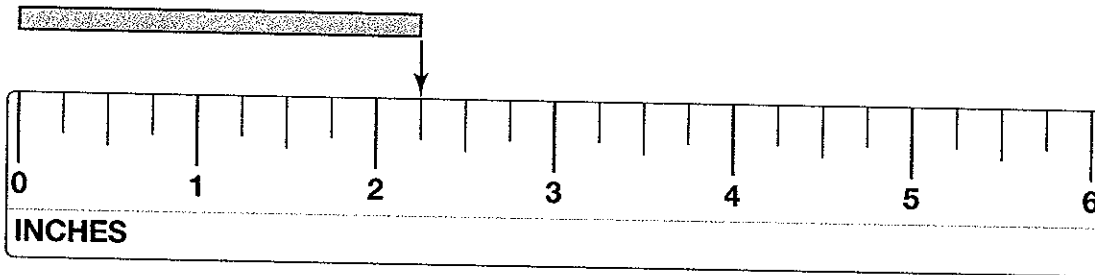
# Customary Units of Length

Reteaching 16-1

Unit	Example
inch	width of a U.S. quarter
1 foot (ft) = 12 inches (in.)	gym shoes
1 yard (yd) = 3 feet	height of a desk
1 mile (mi) = 5,280 feet	distance between school and home

### How to measure an object:

To measure an object, make sure one end of the object begins at the zero unit.



The rectangle is closest to the 2 in. mark, so we can say the rectangle is 2 in. long to the nearest inch.

Choose the most appropriate unit to measure the length of each.  
Write in., ft, yd, or mi.

1. cat \_\_\_\_\_
2. lake \_\_\_\_\_
3. hallway \_\_\_\_\_
4. basketball court \_\_\_\_\_

Estimate first. Then, find each length to the nearest inch.

5.  \_\_\_\_\_
6.  \_\_\_\_\_

Name \_\_\_\_\_

Reteaching  
**16-2**

# Customary Units of Capacity

Capacity is the amount that a container can hold. Capacity is measured in teaspoons, tablespoons, fluid ounces, cups, pints, quarts, and gallons, from smallest to largest.

Reteaching 16-2



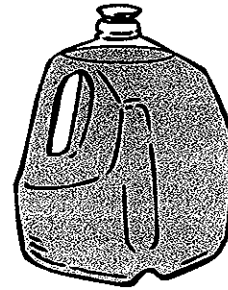
a cup



There are 2  
cups in a pint.



There are 2  
pints in a quart.



There are 4  
quarts in a gallon.

Choose the most appropriate unit or units to measure the capacity of each. Write fl oz, c, pt, qt, or gal.

- |                       |                       |
|-----------------------|-----------------------|
| 1. water bottle _____ | 2. bathtub _____      |
| 3. milk carton _____  | 4. coffee pot _____   |
| 5. teacup _____       | 6. jug of juice _____ |

7. **Reasoning** Would a cup be a good tool for measuring the amount of water in a bathtub? Explain why or why not.

\_\_\_\_\_

\_\_\_\_\_

The adult human body contains about 5 qt of blood.

- |   |  |
|---|--|
| 8. Are there more or less than 5 pt of blood in a human adult?<br>_____ | 9. Are there more or less than 5 gal of blood in a human adult?<br>_____ |
|---|--|

Name \_\_\_\_\_

# Units of Weight

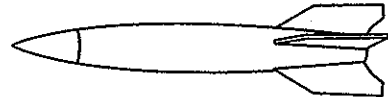
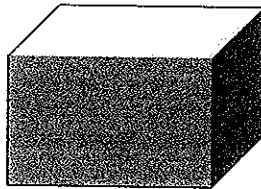
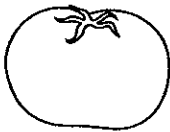
There are 16 ounces (oz) in 1 pound (lb).

There are 2,000 lb in 1 ton (T).

You use ounces to weigh smaller things, like a tomato.

You use pounds to weigh things like a heavy box.

You use tons to weigh very large or heavy things, like a rocket.



Choose the most appropriate unit to measure the weight of each.  
Write oz, lb, or T.

- |                            |                         |
|----------------------------|-------------------------|
| 1. car _____               | 2. computer _____       |
| 3. bowling ball _____      | 4. onion _____          |
| 5. Tyrannosaurus rex _____ | 6. vacuum cleaner _____ |

7. **Reasoning** A hippo weighs about 5,000 lb. Does the same hippo weigh more or less than 5,000 oz?

\_\_\_\_\_

8. Would you most likely measure a leaf using ounces, pounds, or tons? Explain.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

# Elapsed Time

Elapsed time problems can be solved in more than one way.

Find the elapsed time between 8:50 A.M. and 11:00 A.M.

**One Way**

8:50 to 9:00 is 10 min.

9:00 to 11:00 is 2 h.

That's 2 h 10 min.

**Another Way**

8:50 to 10:50 is 2 h.

10:50 to 11:00 is 10 min.

That's 2 h 10 min.

Find each elapsed time.

1. Start: 9:00 A.M.  
Finish: 1:30 P.M.

\_\_\_\_\_

2. Start: 5:15 P.M.  
Finish: 8:20 P.M.

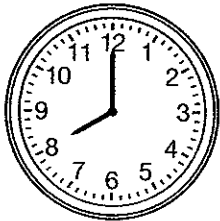
\_\_\_\_\_

3. Start: 7:35 A.M.  
Finish: 8:57 A.M.

\_\_\_\_\_

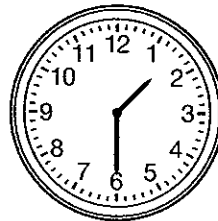
Write the time each clock will show in 35 minutes.

4.



\_\_\_\_\_

5.



\_\_\_\_\_

6. **Number Sense** Is the elapsed time from 3:35 A.M. to 11:00 A.M. more than or less than 7 hours? Explain.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

## Data from Surveys

To take a survey, you ask different people the same question and record their answers. Heather asked her class, "What is your favorite flavor of frozen yogurt?" Here are her results.

**Favorite Flavor of Frozen Yogurt**

Vanilla	////	4
Chocolate	### ////	9
Strawberry	///	3
Orange	/	1

We can see that Heather's classmates liked chocolate frozen yogurt the best.

**Favorite Winter Olympic Sports**

Bobsledding	## ///	8
Curling	//	2
Ice hockey	## ##	10
Speed skating	///	3

1. How many people in the survey liked bobsledding the best? \_\_\_\_\_
2. How many people were surveyed? \_\_\_\_\_
3. According to the data, which sport is the favorite of most people? \_\_\_\_\_
4. **Number Sense** If five times as many people were surveyed, how many do you think would say they liked curling best? Explain.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Reteaching 17-1

Name \_\_\_\_\_

# Interpreting Graphs

1. How many free-throw shots did Jan make?

\_\_\_\_\_

2. How many free-throw shots did Bob make?

\_\_\_\_\_

3. Who made 35 free-throw shots?

\_\_\_\_\_

4. Who made 15 free-throw shots?

\_\_\_\_\_

5. **Number Sense** How can you easily tell who completed about the same number of free-throw shots?

\_\_\_\_\_

\_\_\_\_\_

6. What are the numbers that show the units on a graph called?

- A** Scale      **B** Intervals      **C** Horizontal axis      **D** Vertical axis

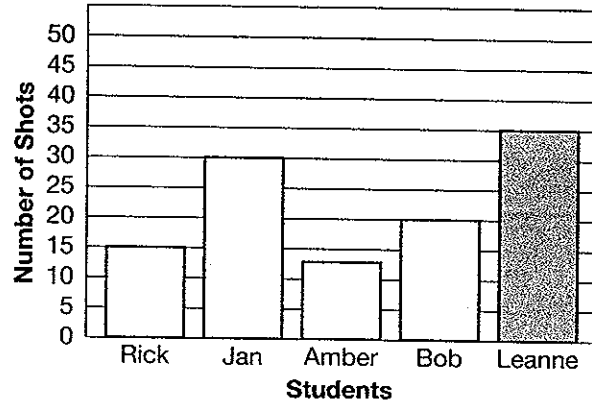
7. **Writing to Explain** Describe the interval you would use for a bar graph if the data ranges from 12 to 39 units.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

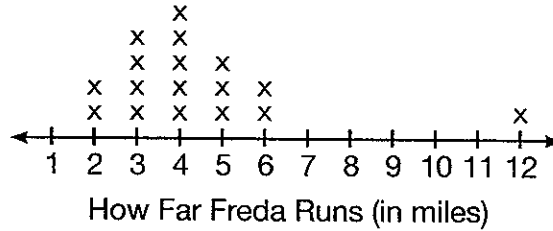
**Free-Throw Shots**



# Line Plots

The table below gives the number of miles Freda ran over a period of days. A line plot shows data along a number line. Each X represents one number in the data set.

Miles Run	Days
2	2
3	4
4	5
5	3
6	2
12	1



On the line plot each X represents 1 day. An outlier is a number in a data set that is very different from the rest of the numbers.

1. Is there an outlier in the data set above? Explain.

\_\_\_\_\_

2. Complete the line plot to show the data in the table for puppies' weights at birth. Identify the outlier in the data set.

\_\_\_\_\_

Weight (lb)	Number of Puppies
3	5
4	3
5	2
6	0
7	1
13	1

