5.8a,d

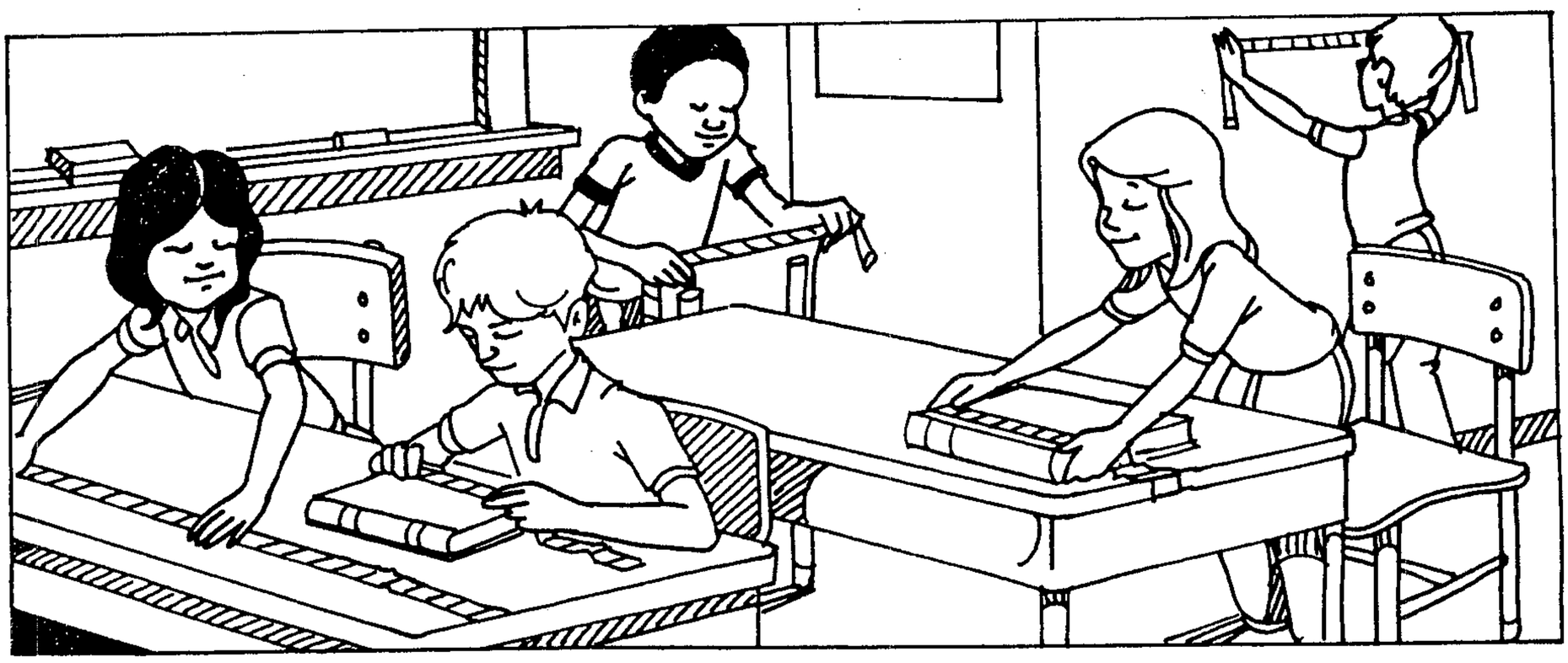
Name _____ Activity Worksheet 29

# Finding Perimeter and Area

Use a metric measuring tape to measure the length and width of rectangular objects in the chart below. Write the measurements to the nearest centimeter. Then calculate the perimeter and area.

| What to Measure | length (centimeters) | width (centimeters) | perimeter (centimeters) | area (square centimeters) |
|---|---|---|---|---|
| Your math book | | | | |
| Your English book | | | | |
| The dictionary | | | | |
| A table top | | | | |
| The chalk tray | | | | |
| A chair seat | | | | |
| A picture on the wall | | | | |
| One window pane | | | | |





Measuring Tapes

5.8a,c

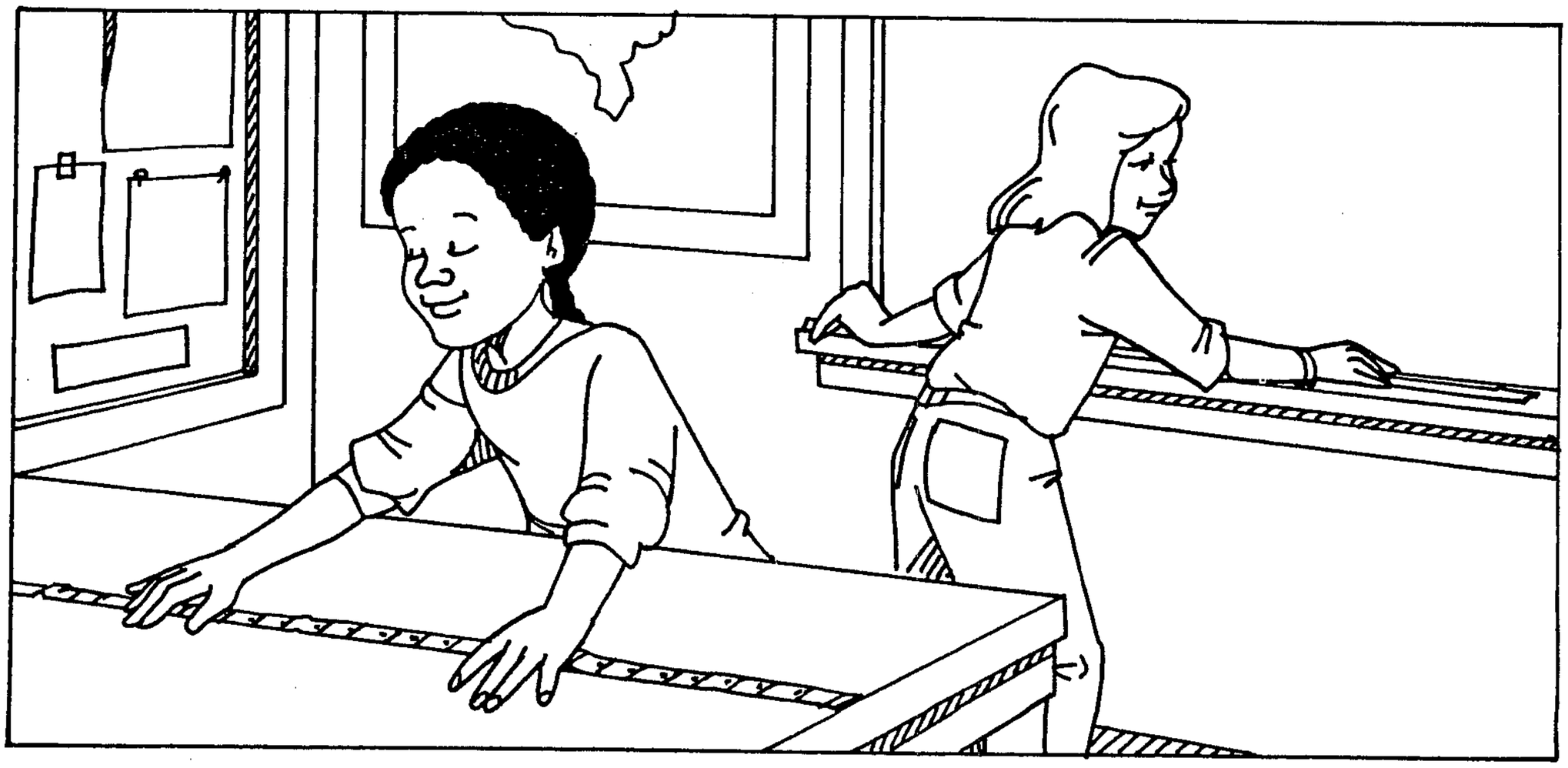
Name _____ Activity Worksheet 27

# Finding Perimeter and Area

Use a customary measuring tape to measure the length and width of rectangular objects in the chart. Write the measurements to the nearest inch. Then calculate the perimeter and area.

| What to Measure | length (inches) | width (inches) | perimeter (inches) | area (square inches) |
|---|---|---|---|---|
| Your desk top | | | | |
| The teacher's desk top | | | | |
| The classroom door | | | | |
| Classroom window | | | | |
| Cafeteria table | | | | |
| Your classroom | | | | |
| The chalkboard | | | | |





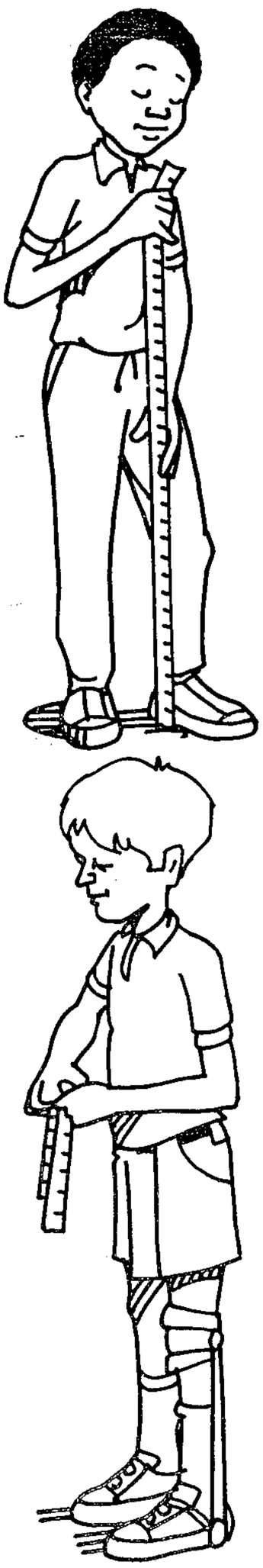
Measuring Tapes

5.8 d

Name _____ Activity Worksheet 26

# Measuring Yourself

Use a customary measuring tape to measure different parts of your body. Write each measurement to the nearest inch, half-inch, quarter-inch and eighth-inch.

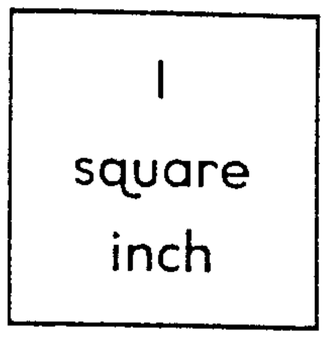


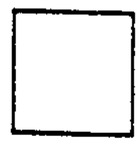
| What to Measure | to nearest inch | to nearest $\frac{1}{2}$ inch | to nearest $\frac{1}{4}$ inch | to nearest $\frac{1}{8}$ inch |
|---|---|---|---|---|
| Around your head | | | | |
| Around your waist | | | | |
| Around your ankle | | | | |
| Around your neck | | | | |
| Around your fist | | | | |
| From your nose to your knee | | | | |
| From your knee to your big toe | | | | |
| From your shoulder to your thumbnail | | | | |
| From your waist to the floor (standing up) | | | | |
| From your left ear to your right ear | | | | |
| The farthest apart you can get your hands | | | | |

# Area

Ron's hobby is art. He makes figures using colored squares.

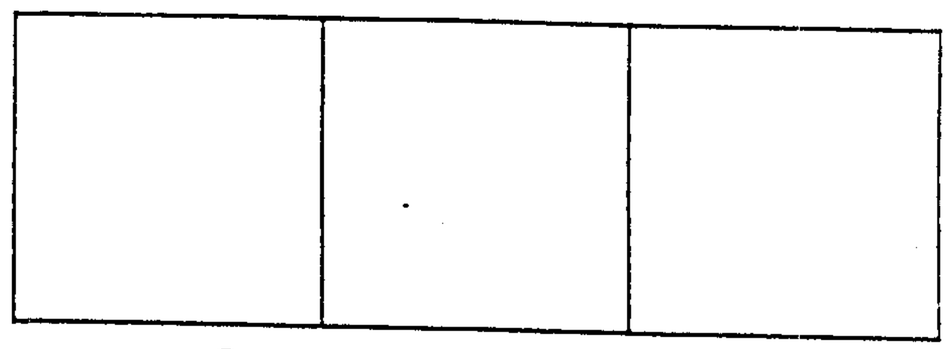
He uses squares that are 1 inch or 1 centimeter on each side.



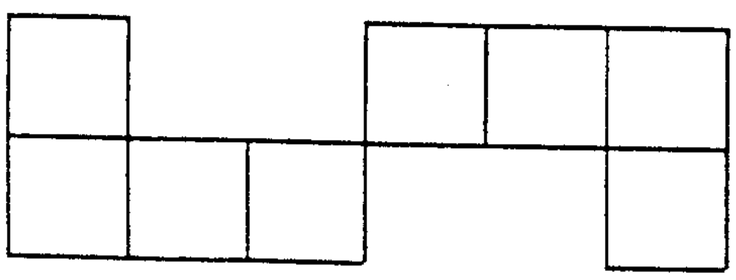



1 square centimeter

The area of one of Ron's figures is the number of square inches or square centimeters used.

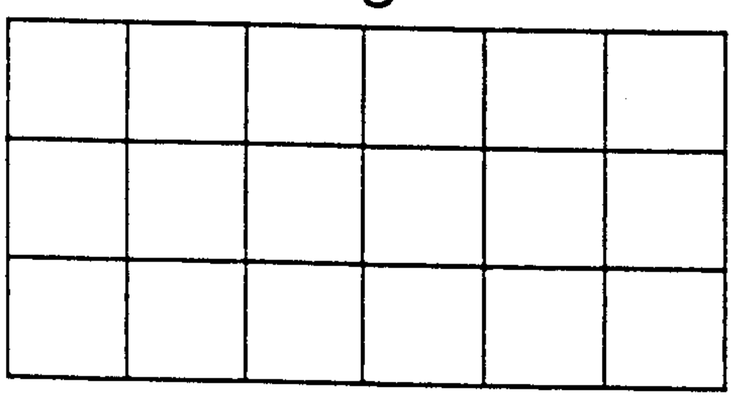


3 square inches

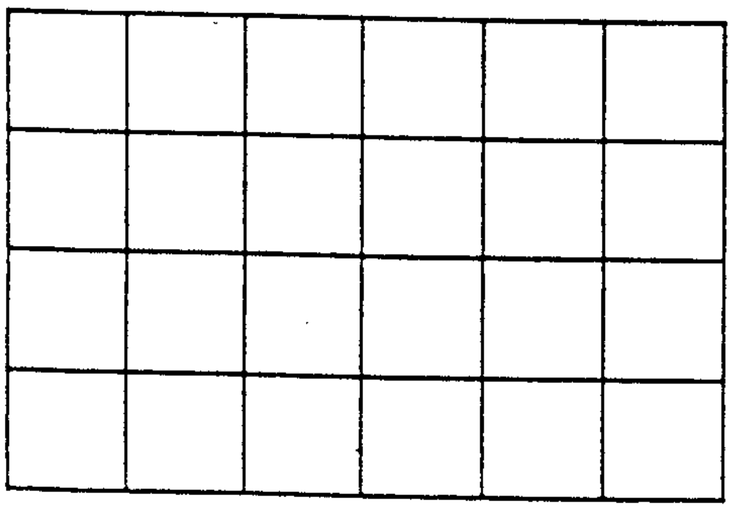


8 square centimeters

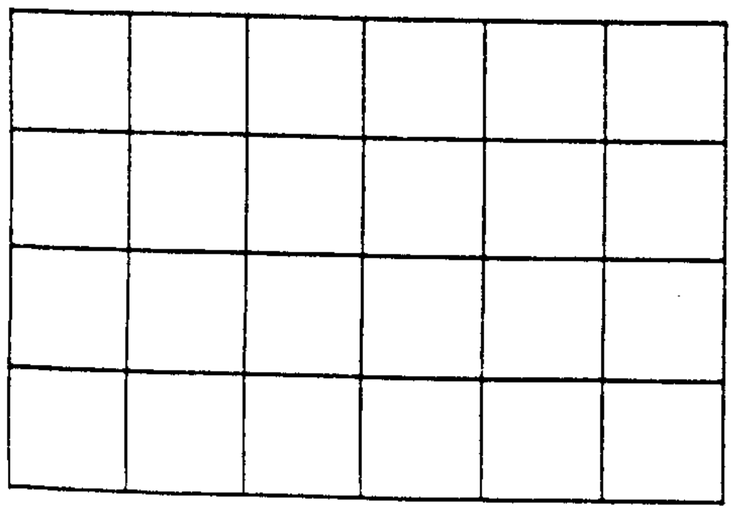
Count to find the area of these figures:



_____ square cm



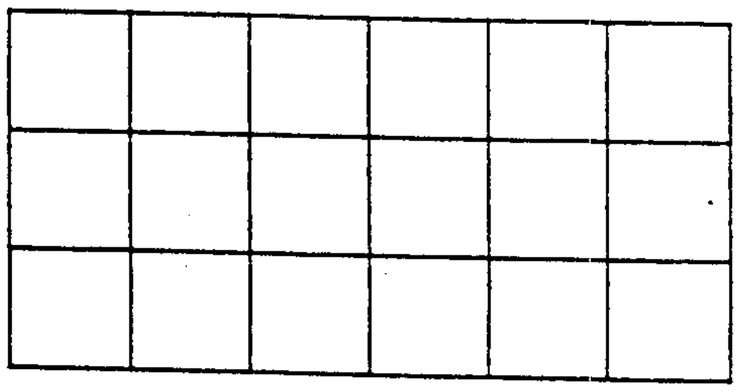
_____ square cm



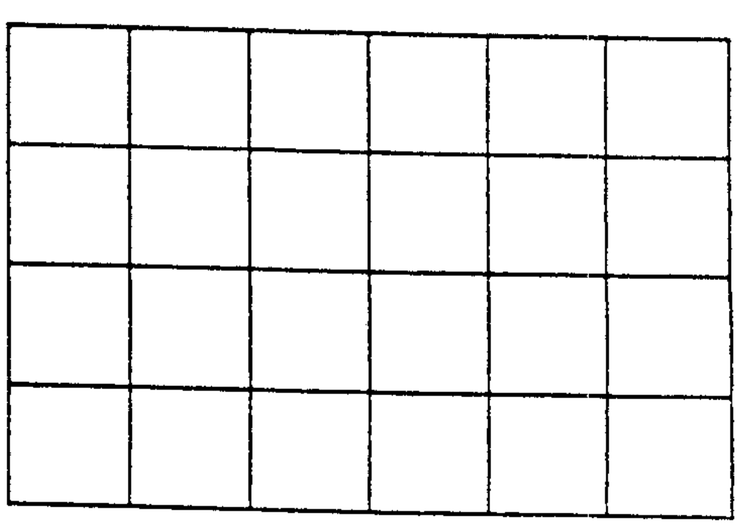
_____ square cm

Now you draw a figure that is:

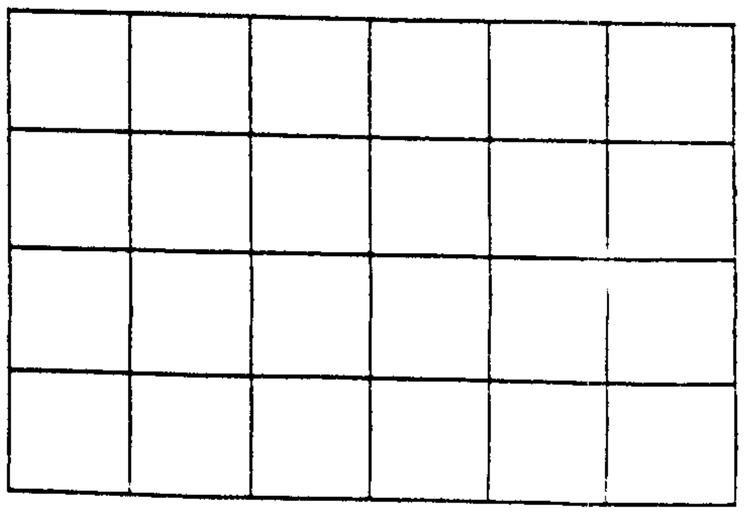
6 square cm



13 square cm



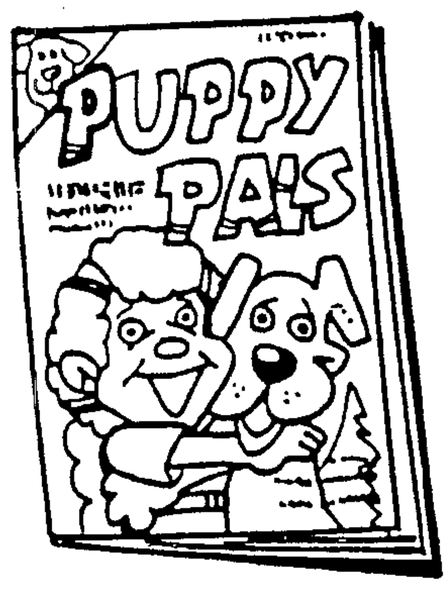
18 square cm



5.8

# Area of a Rectangle

Kathy collects magazine covers. Her newest one is 14 inches tall and 12 inches wide. What is its area?




$$\begin{array}{r} 14 \\ \times 12 \\ \hline 28 \\ 14 \\ \hline 168 \end{array}$$

square inches

> To find the area of a rectangle, multiply length times width.

Find the area of these rectangles and use your answers for the riddle.

19 in. / 33 in. — _____ sq. in. - I

28 in. / 16 in. — _____ sq. in. - E

13 in. / 35 in. — _____ sq. in. - T

20 in. / 19 in. — _____ sq. in. - R

23 in. / 27 in. — _____ sq. in. - S

58 cm / 27cm — _____ sq. cm - D

76cm / 39cm — _____ sq. cm - G

44cm / 58cm — _____ sq. cm - W

What is a popular gardening magazine?

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| 2552 | 448 | 448 | 1566 | 448 | 380 | 621 |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| 1566 | 627 | 2964 | 448 | 621 | 455 |

5.8

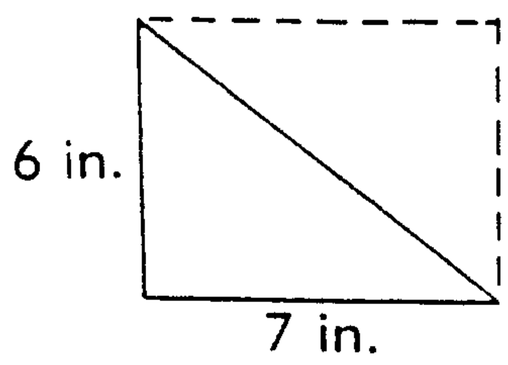
# Area of a Right Triangle

Steve saw that 2 of his pennants put together form a rectangle. The area of one of the pennants is $\frac{1}{2}$ the area of a rectangle with the same length and width.


To find the area of a right triangle, find the area of a rectangle with the same length and width and divide by 2.

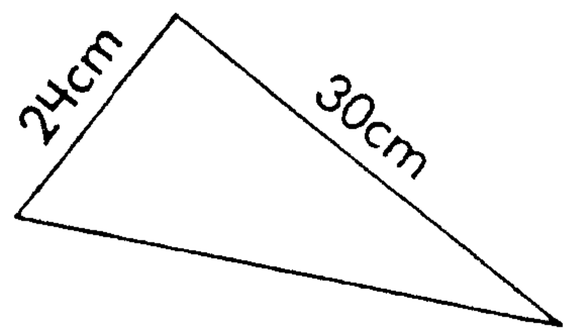
Find the area of these right triangles.

1.



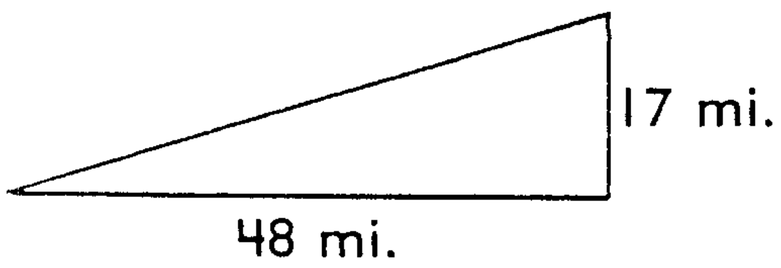

21 square inches

2.



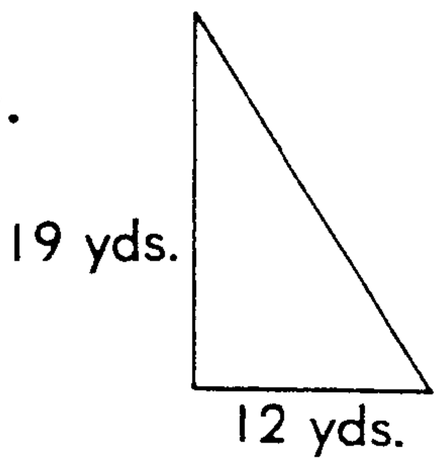

_____ square centimeters

3.




_____ square miles

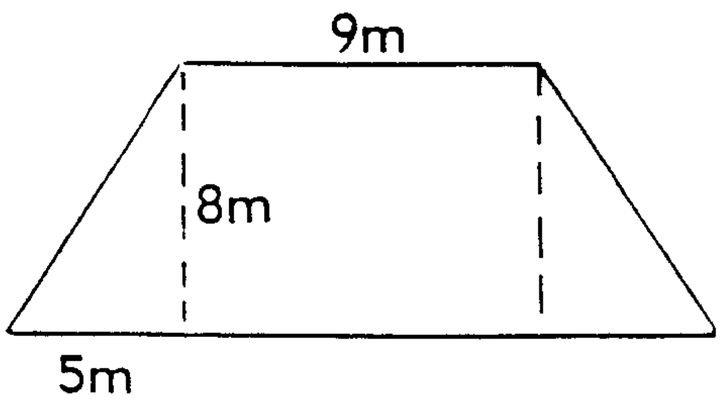
4.




_____ square yards

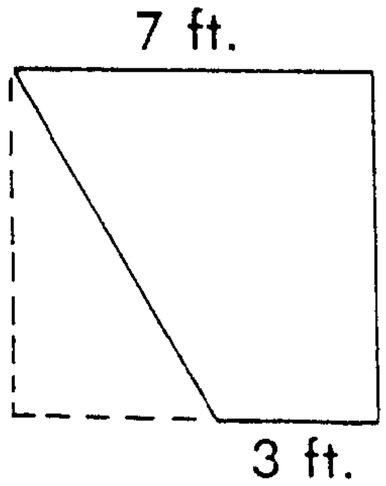
Find the area of these shapes.

5.




_____ square meters

6.




_____ square feet

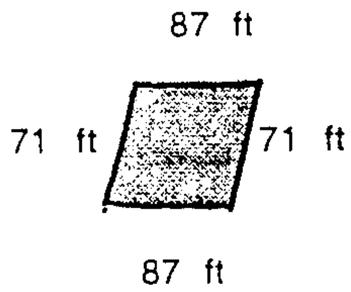
SOL 5.8a

Name _____ Score _____

Date _____

Find the perimeter.

Find the perimeter:

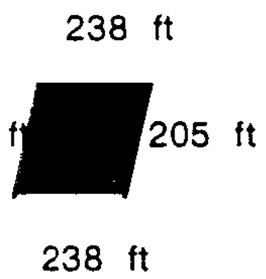



_____

Find the perimeter:

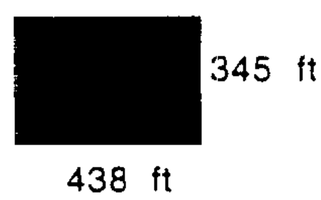

_____

Find the perimeter:




_____

Find the perimeter:

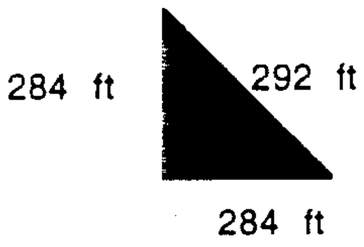



_____

Find the perimeter:

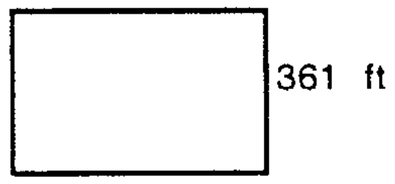

_____

Find the perimeter:



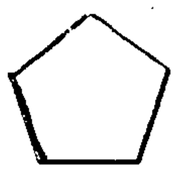

_____

Find the perimeter:




_____

Find the perimeter:




_____

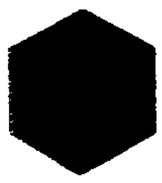
Find the perimeter:


_____

Find the perimeter:

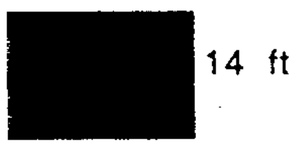

_____

Find the perimeter:




_____

Find the perimeter:




_____

Find the perimeter:




_____

Find the perimeter:




_____

Find the perimeter:




_____

Find the perimeter:



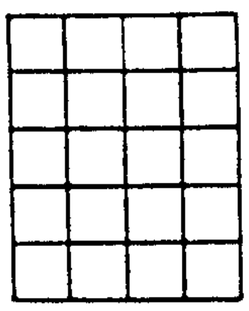

_____

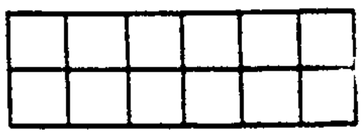
Name _____ 5.8.01

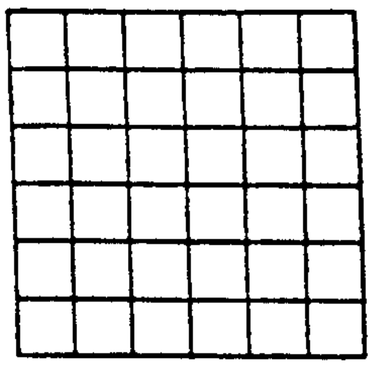
Use with text pages 380-383.

# Finding Area

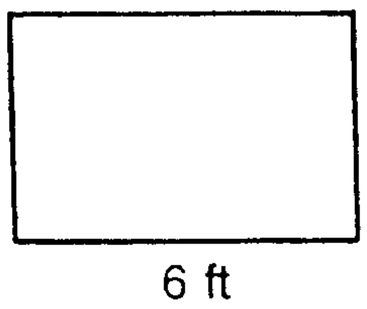
Find the area by counting the unit squares.

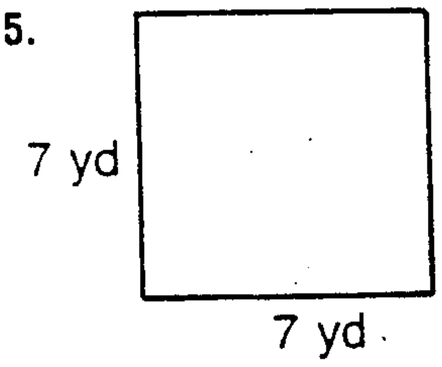
1. 

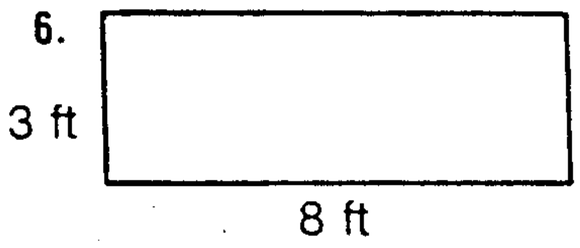
2. 

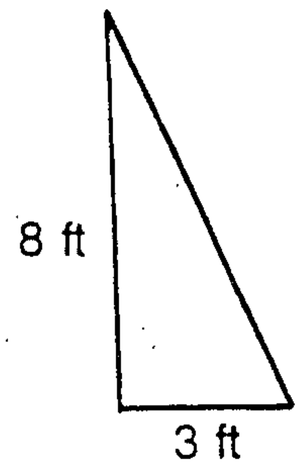
3. 

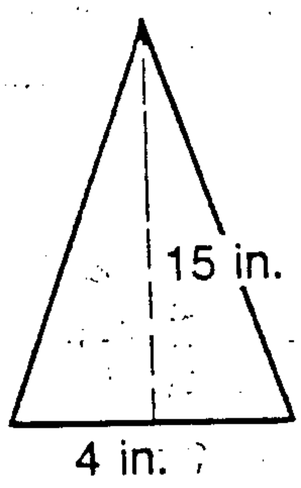
Find the area by multiplying.

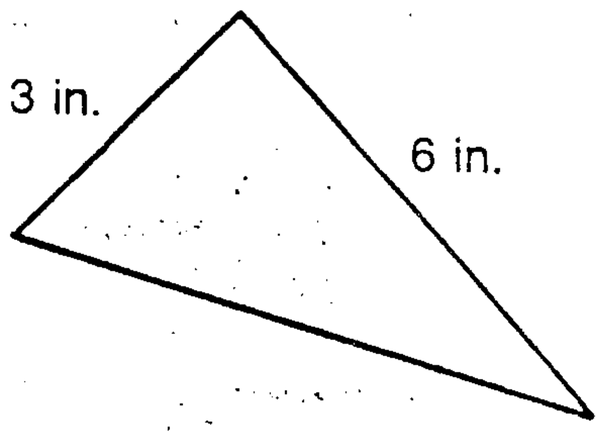
4. 


5. 


6. 


7. 


8. 


9. 


## Mixed Review

Write each answer in lowest terms.

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

2. $2\frac{1}{9} + 3\frac{4}{9}$ ____

3. $1\frac{1}{7} + 2\frac{1}{7}$ ____

4. $8\frac{3}{4} - 1\frac{1}{4}$ ____

5. $3\frac{6}{7} - 2\frac{1}{7}$ ____

6. $4\frac{7}{8} - 2\frac{5}{8}$ ____

7. $\frac{1}{2} \times 3$ ____

8. $4 \times \frac{3}{4}$ ____

9. $\frac{3}{8} \times 4$ ____

10. $\frac{1}{16} \div \frac{1}{8}$ ____

11. $\frac{2}{3} \div \frac{3}{4}$ ____

12. $\frac{1}{5} \div \frac{1}{10}$ ____

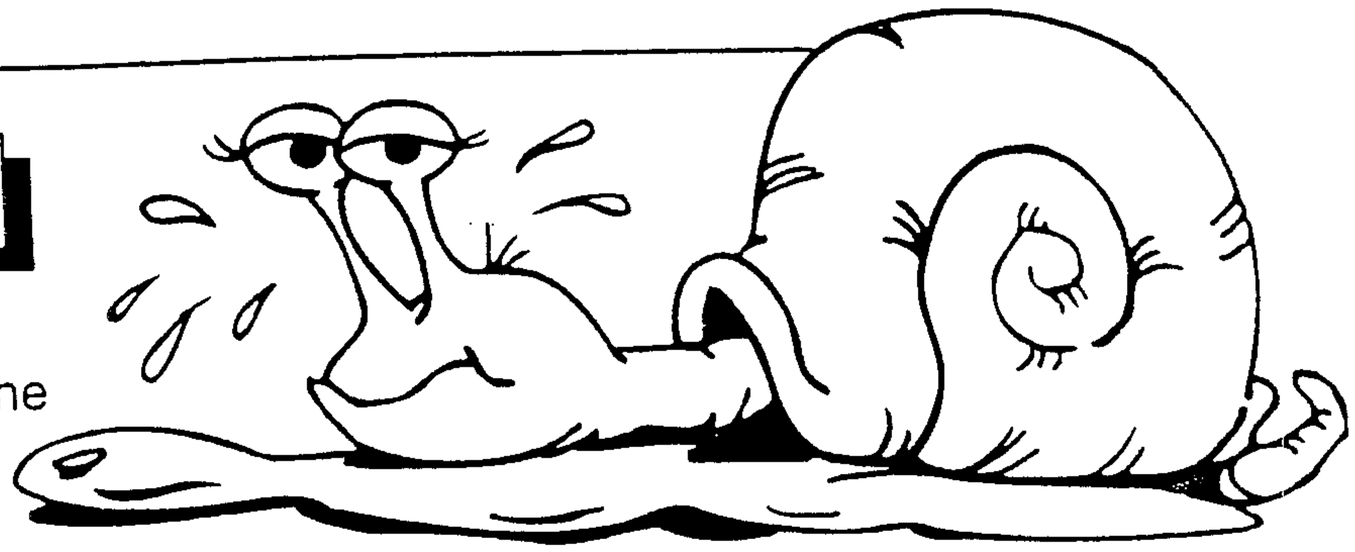
5.8a

# More Weird Words

Volume of cubes and rectangular prisms

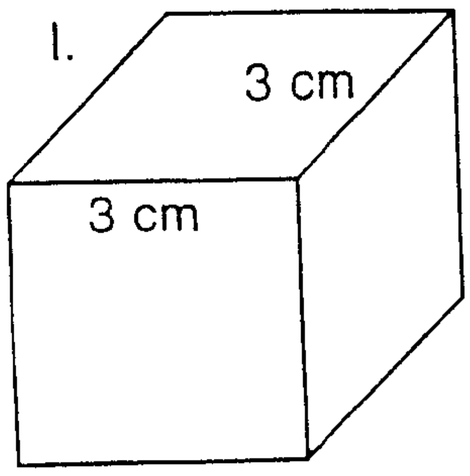
Name _____

What is the morbid fear of slime?

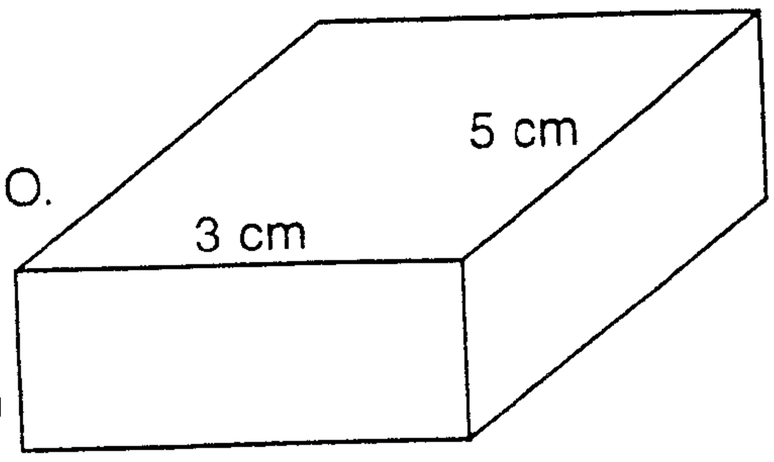


To answer the riddle, find the volumes below at the bottom of the page. Put the corresponding letter above each.

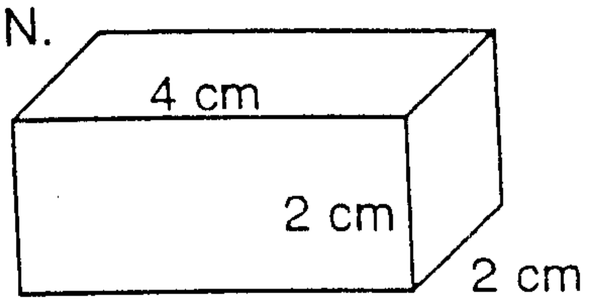
I.



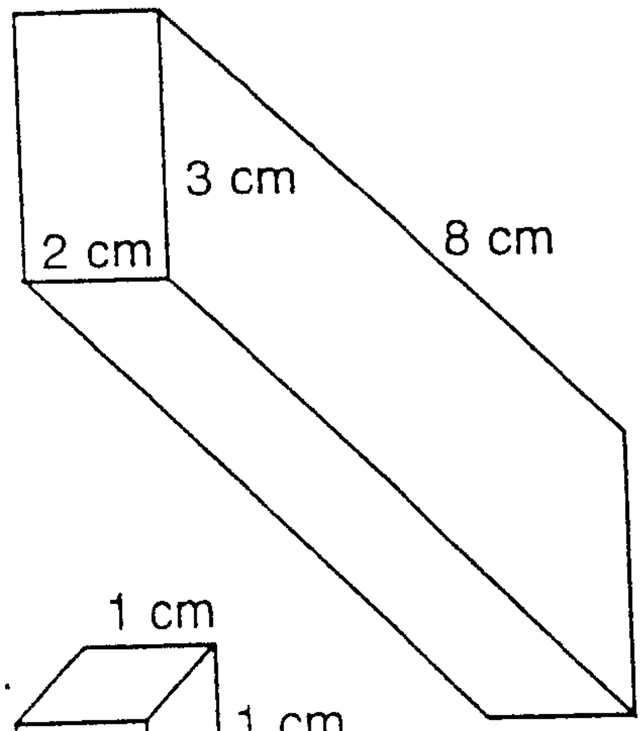

O.



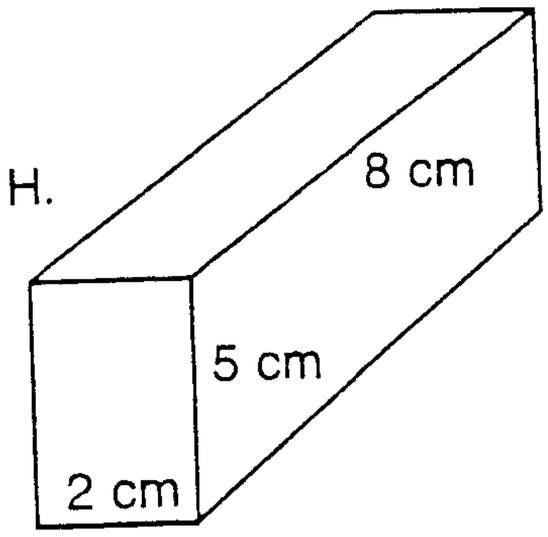

N.



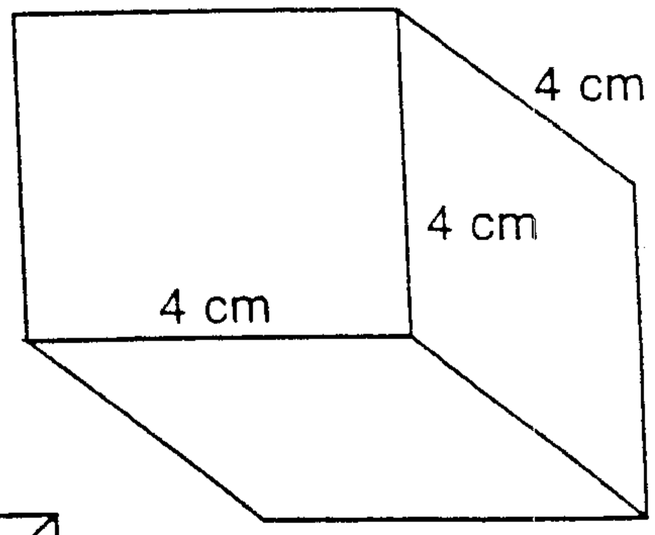

A.



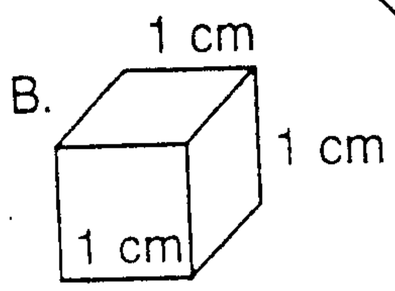

H.



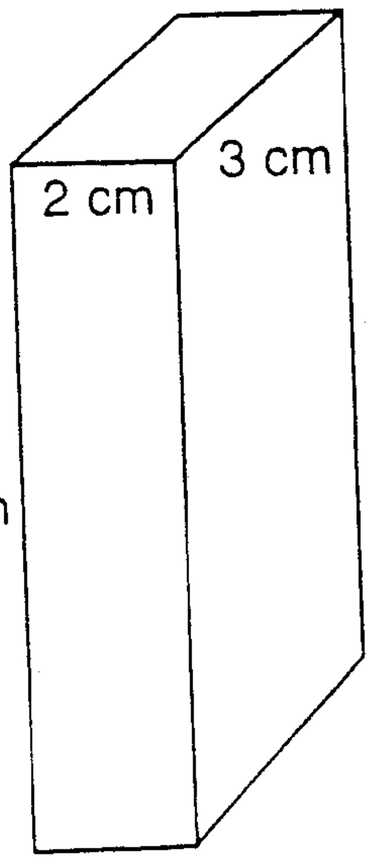

O.



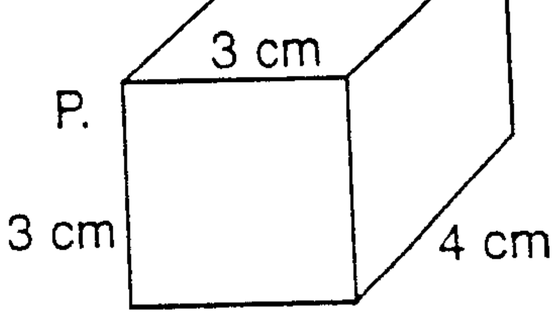

B.



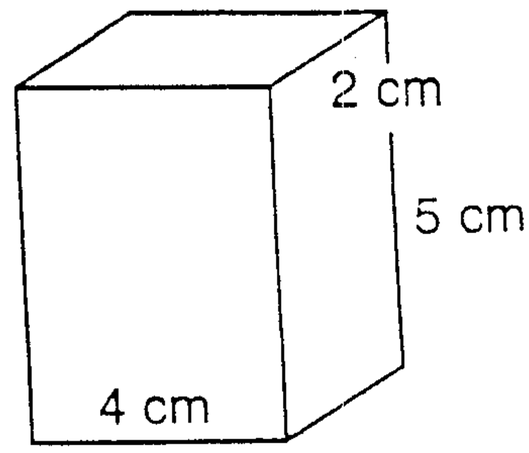

B.



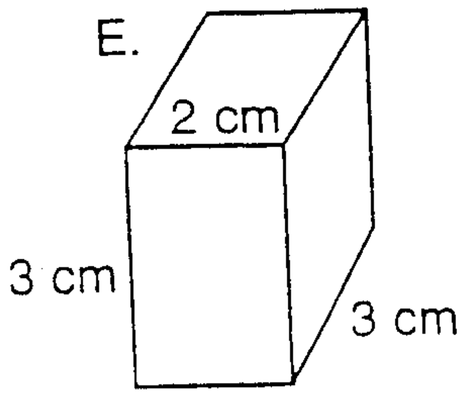

P.



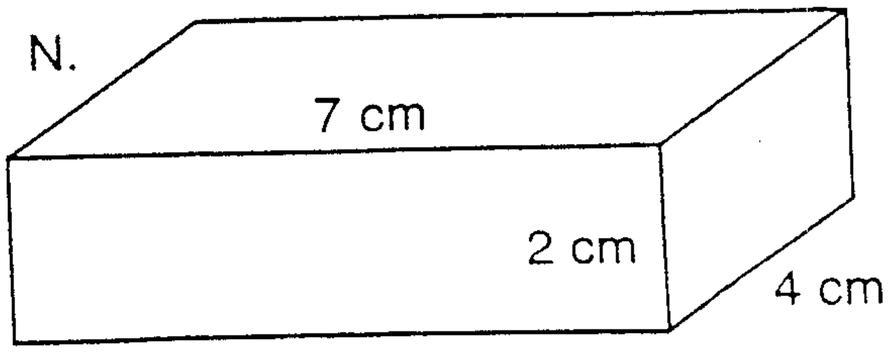

L.




E.




N.




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 $cm^3$ | 40 $cm^3$ | 18 $cm^3$ | 16 $cm^3$ | 56 $cm^3$ | 64 $cm^3$ | 36 $cm^3$ | 80 $cm^3$ | 30 $cm^3$ | 42 $cm^3$ | 27 $cm^3$ | 48 $cm^3$ |

5.8a

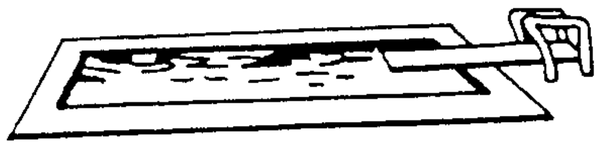
Name _____

# Finding Volume

**12.10**
**USE WHAT YOU KNOW**

Find the volume of each.

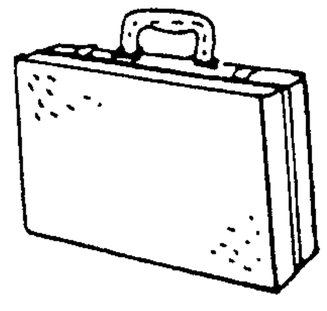
1.



75 ft × 25 ft × 8 ft

_____

2.



14 in. × 9 in. × 7 in.

_____

3. 30 cm × 28 cm × 50 cm

_____

4. 30 in. × 6 in. × 15 in.

_____

5. $l$ = 7 in.
   $w$ = 8 in.
   $h$ = 5 in.

_____

6. $l$ = 20 ft
   $w$ = 10 ft
   $h$ = 5 ft

_____

7. $l$ = 50 yd
   $w$ = 25 yd
   $h$ = 10 yd

_____

8. $l$ = 5.6 mm
   $w$ = 1.5 mm
   $h$ = 3.2 mm

_____

## Mixed Applications

9. Joe's toolbox is 20 in. long, 12 in. wide, and 10 in. high. Find the volume of the toolbox.

_____

10. The volume of a door is 6,912 in. If the door is 96 in. high and 2 in. thick, how wide is it?

_____

11. The high school track is 400 meters long. In her training, Alice normally runs 4 laps. Today Alice ran $\frac{3}{4}$ of her usual distance. How many meters did she run?

_____

12. The pool at a swim club is 75 ft long. The Choys' swimming pool is $\frac{2}{3}$ that size. How long is their pool?

_____

## PHYSICAL EDUCATION CONNECTION

13. A rescue float often used at swimming pools is $3\frac{1}{2}$ in. × $5\frac{1}{2}$ in. × 40 in. and made of a soft molded foam. Determine the volume of this life-saving device.

_____

5.8a

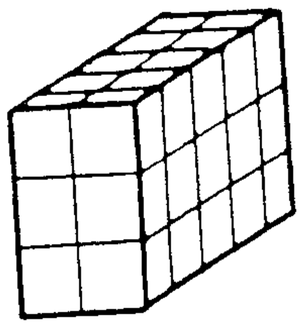
Name _____

Use with text pages 388-389.

# Finding Volume

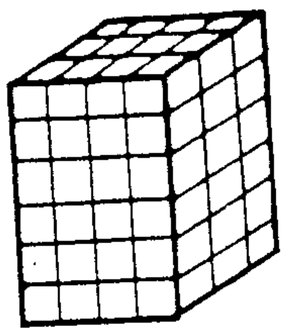
Count the cubic units to find the volume.

1.



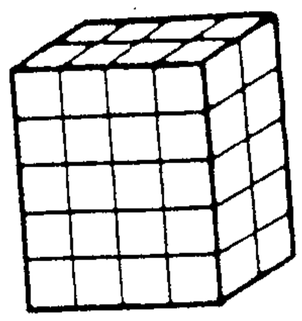
_____

2.



_____

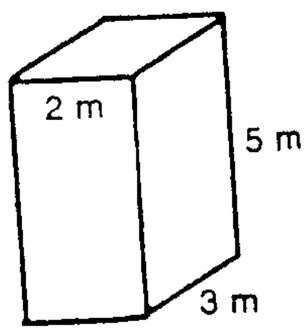
3.



_____

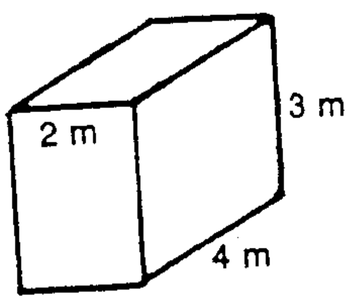
Find each volume.

4.



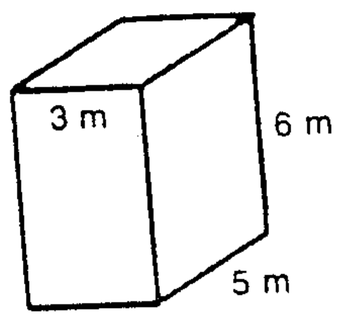

_____

5.



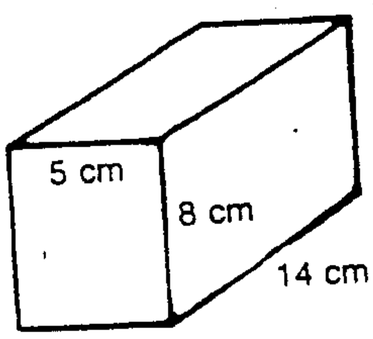

_____

6.



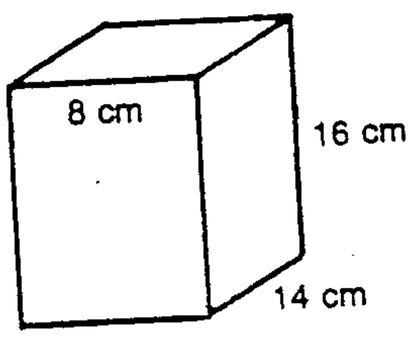

_____

7.




_____

8.

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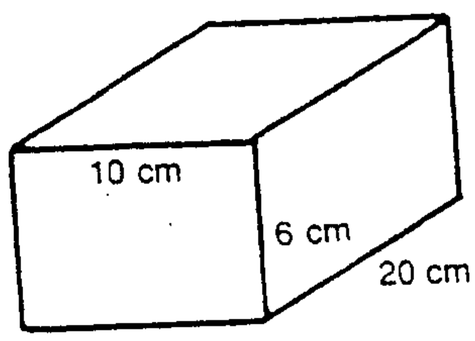
9.




_____

## Mixed Review

Write each answer in lowest terms.

1. $\frac{1}{6} + \frac{1}{3}$ _____

2. $\frac{4}{9} + \frac{1}{3}$ _____

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

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

5. $\frac{9}{10} - \frac{2}{5}$ _____

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

7. $\frac{1}{2} \times 2\frac{1}{2}$ _____

8. $2\frac{1}{3} \times 1\frac{2}{3}$ _____

9. $1\frac{1}{2} \times 3\frac{1}{8}$ _____

10. $\frac{1}{7} \div \frac{1}{14}$ _____

11. $\frac{1}{8} \div 3$ _____

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

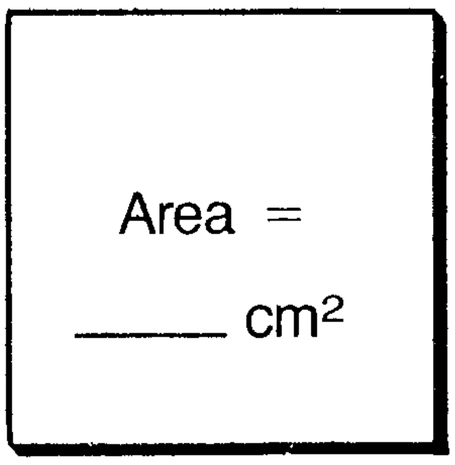
5.8a

Name _____ Activity Worksheet 44

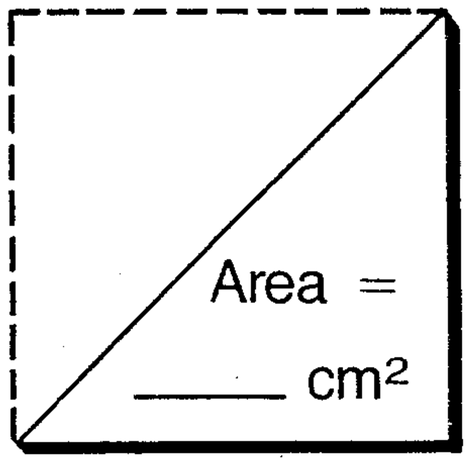
# Tangram Areas

Find the areas of these figures. Measure the base and height to the nearest centimeter.

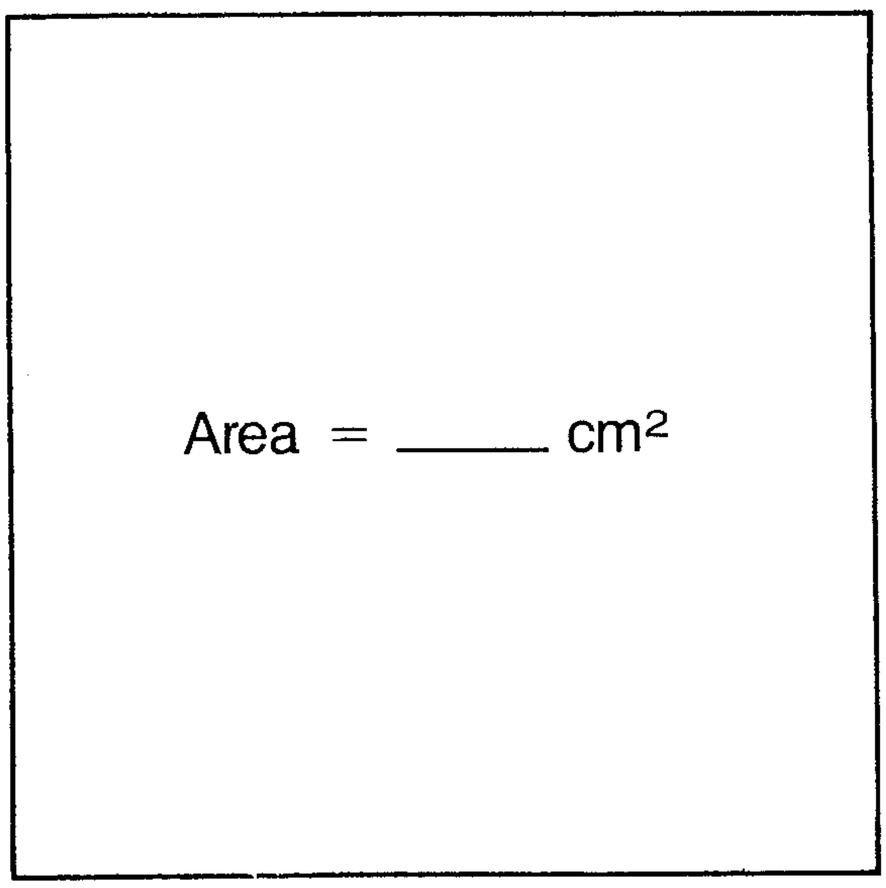
1. The area of a rectangle = its base (b) × its height (h).



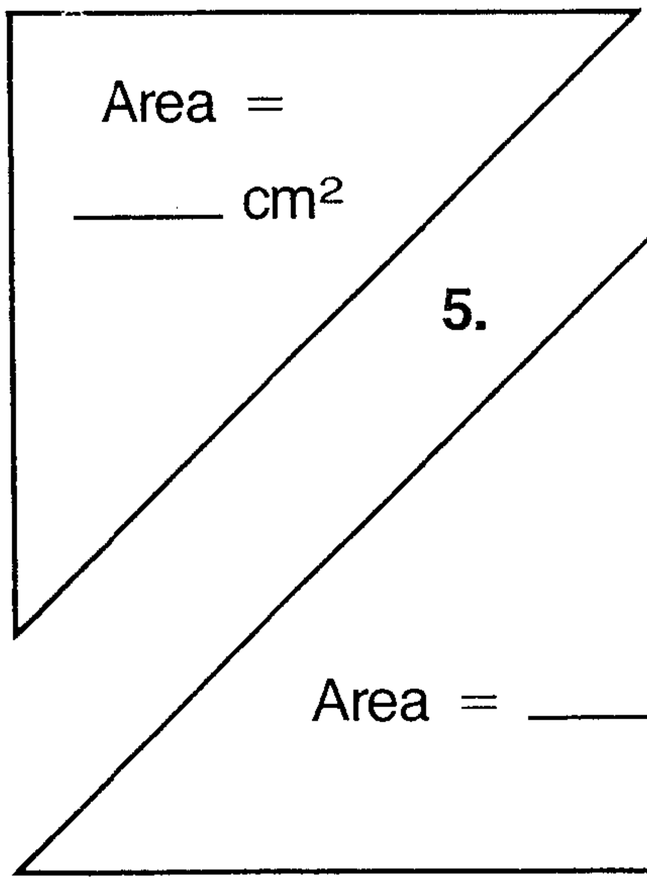

2. The area of a right triangle = $\frac{1}{2}$ its base (b) × its height (h).




3.



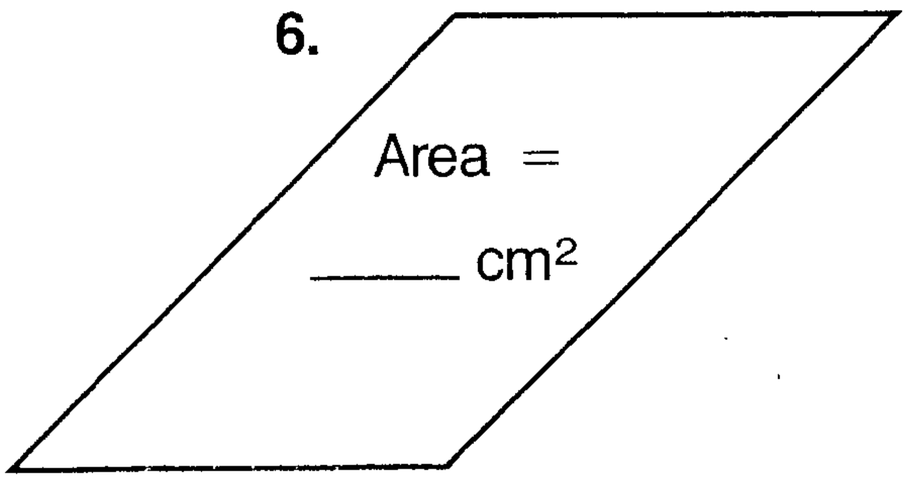

4.



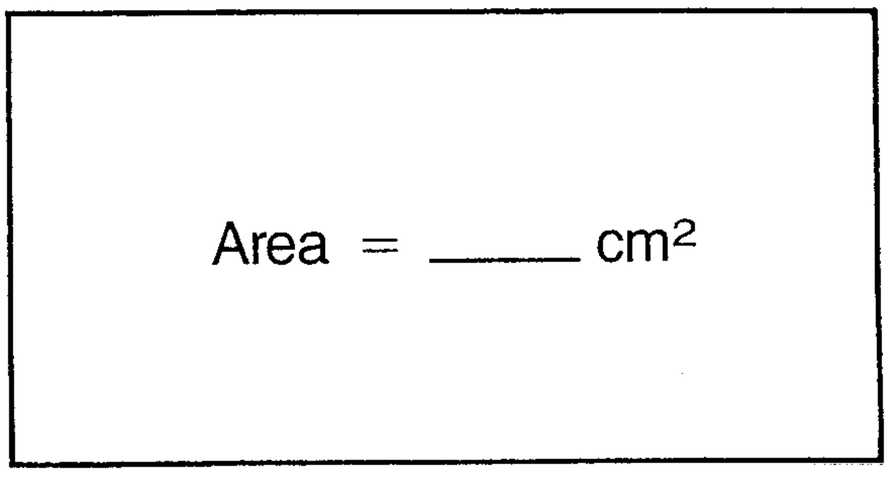

5.




6.




7.



5.8a



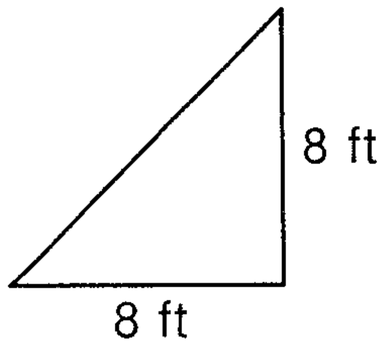
NAME

SHARPEN YOUR SKILLS

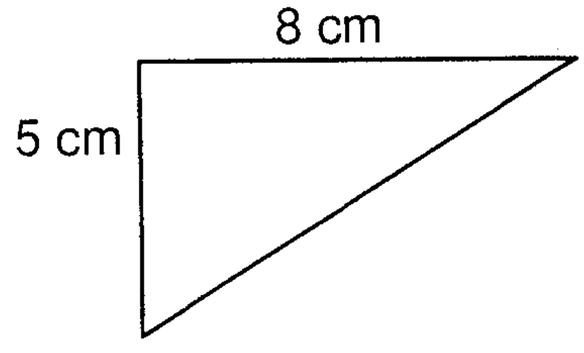
# Area of Triangles

Find the area of each triangle.
**Remember** to label each unit of measure.

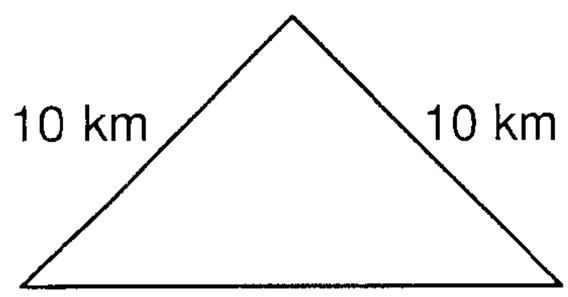
**1.**



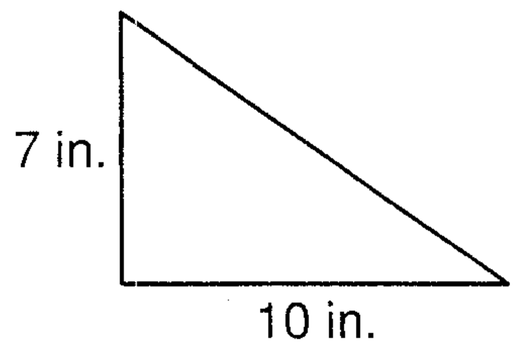

**2.**



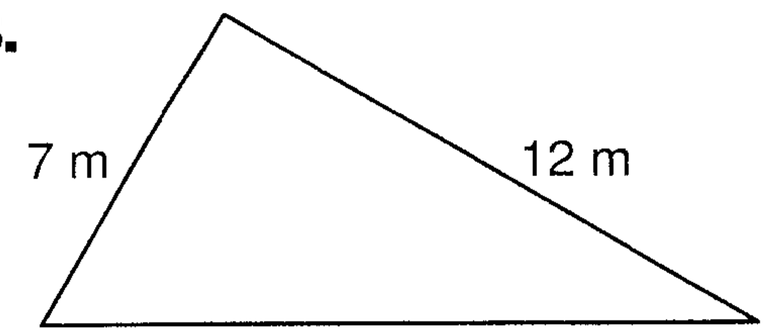

**3.**



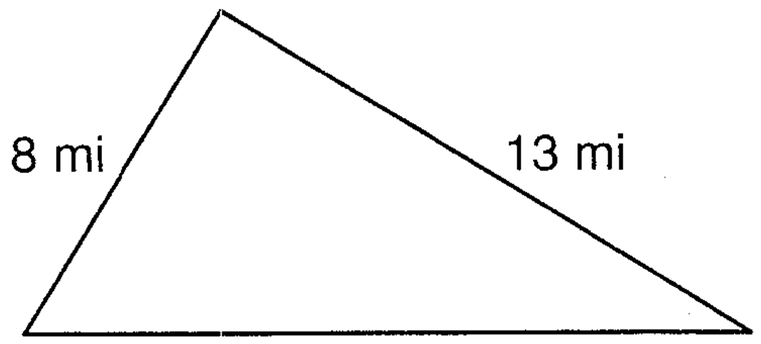

**4.**



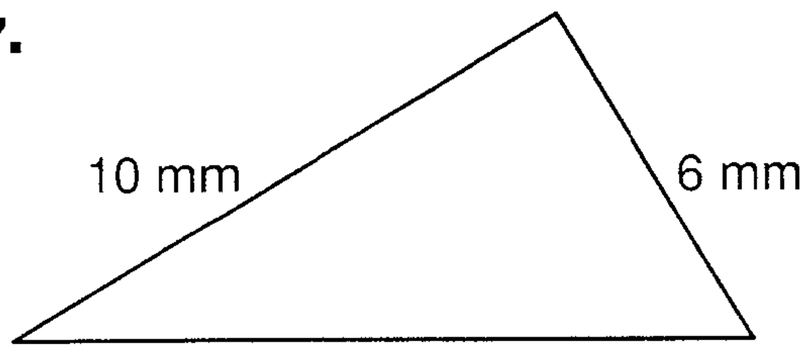

**5.**



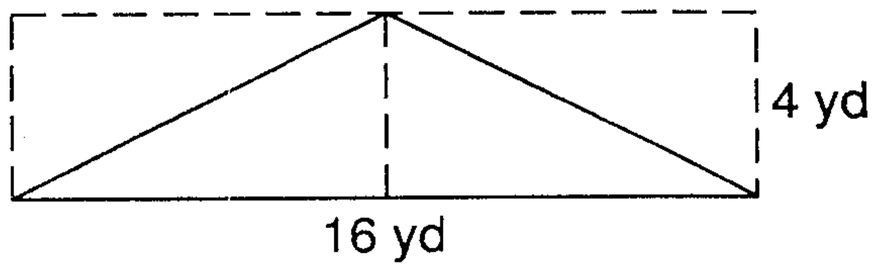

**6.**

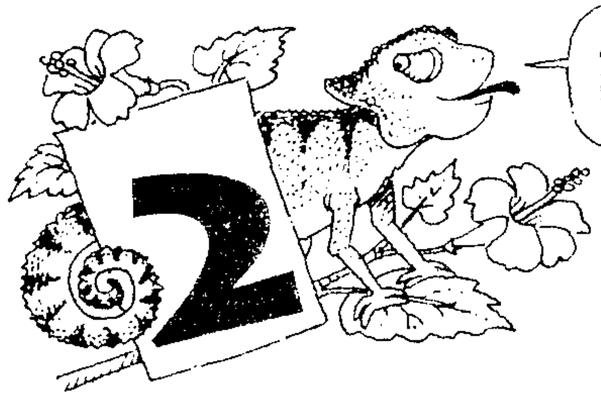



**7.**




**8.**





AREAS OF EMPHASIS: Area, Estimating, Measurement, and Counting

# GEOMETRY

## Turtles and Tiles (-Area-)

TEACHER MATERIALS
- Color Tiles
- Tile Sheet 17 Transparency
- Transparency 4

STUDENT MATERIALS
- Color Tiles (divided equally among groups)
- Tile Sheet 17
- Colored pencils or crayons
- Journal Page

### Concrete Activities

- Use the top half of Transparency 4. Ask: "How can I find out how many squares fit inside the turtle's shell?" Ask a volunteer to fit Color Tiles onto the turtle's shell on the overhead, and report how many were used.

- Ask: "Are turtle shells really shaped like rectangles? (No) Here is a drawing of what a real shell might look like." Show bottom half of Transparency 4. Ask: "How many tiles would it take to completely cover the turtle shell?" Ask for estimates. Have a volunteer cover the turtle shell completely with Color Tiles, and estimate the area of the second turtle shell. Ask children to think and talk about areas of other irregular shapes.

### Pictorial Activities

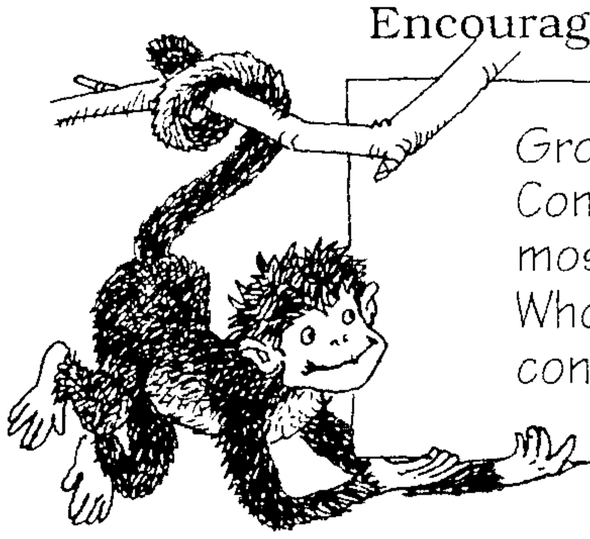
- Divide children into groups. Ask groups to trace one member's foot on a piece of paper. Ask: "How many tiles will it take to cover the foot?" Enter children's estimates into the column labeled *Estimate (no tiles).*

- Groups trace one of their member's hands and estimate the number of tiles they think it will take to cover the hand. Enter the estimates on the table. Do the same with 3 unusually shaped objects, such as an odd paper weight or precut irregular shapes.

- Groups now use Color Tiles to find new estimates for each of the objects. Have groups enter their estimates in the last column.

### Symbolic Activities

- Write down the estimates for each foot on the overhead. Record guesses about the area of all feet in the classroom. Ask: "How can we find the area of all the feet? (Answer: by adding)" Encourage the use of calculators for this problem.



Groups can display their drawings and tables. Compare information. Who has the hand with the most area? Who has the foot with the least area? Who has the drawing of the funniest shape? Have a contest to see if all the shapes can be identified.

Name 5.8a

12.9
USE WHAT YOU KNOW

# Exploring Volume

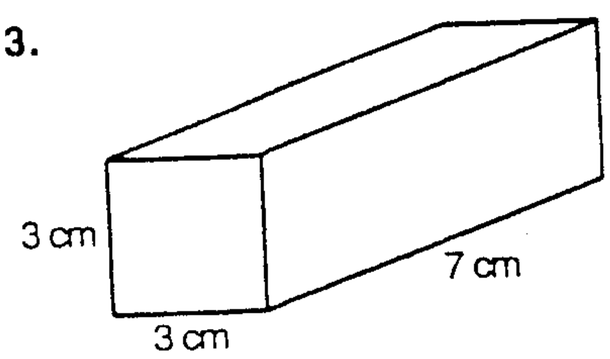
Use cubes to find out how many different rectangular prisms can be made with the given number of cubes.

1. 6 cubes _____

2. 20 cubes _____

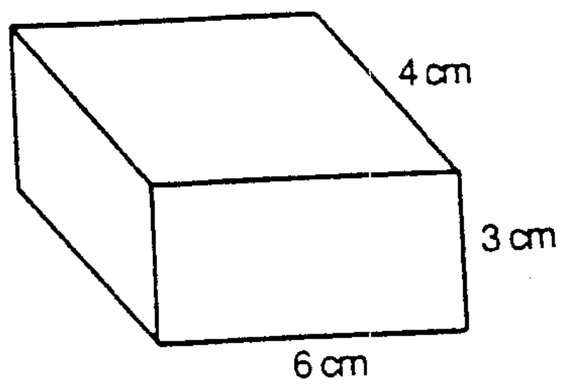
Predict which rectangular prism has the greatest volume. Then use connecting cubes to find the volume of each prism in $cm^3$.

3.




_____

4.

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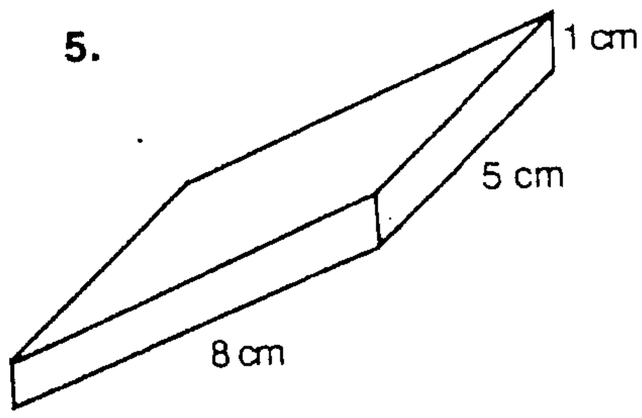
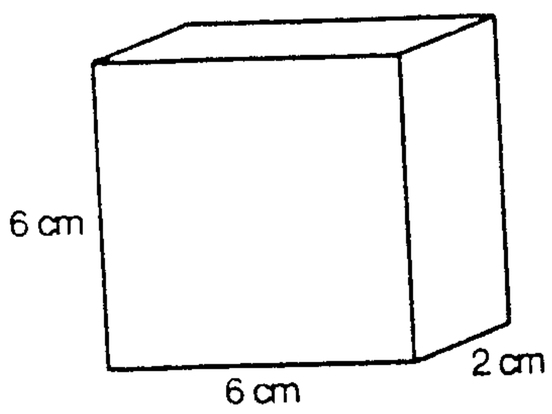
5.




_____

6.

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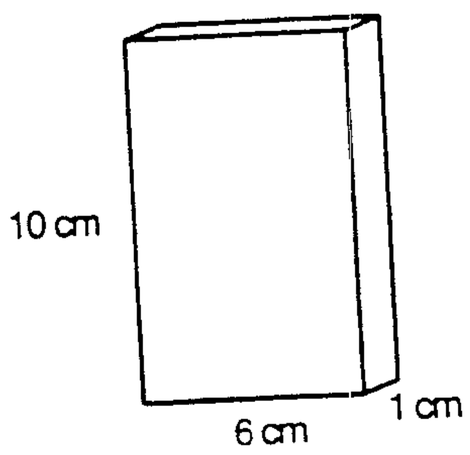
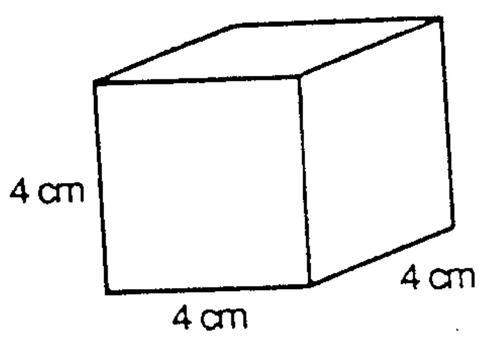
7.




_____

8.




_____

## Mixed Applications

9. A swimming pool is 70 ft long and 20 ft wide. How much water would be needed to fill the pool to a depth of 8 ft?

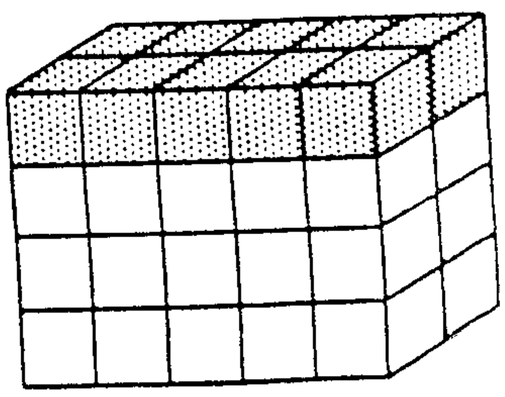
_____

10. Felipe wants to put a fence around a 40-foot by 45-foot garden. How much fence should he buy?

_____

## VISUAL THINKING

11. The diagram shows only the lower part of a rectangular prism. The shaded layer is the middle layer of the entire rectangular prism. How many cubes make up the entire rectangular prism?



_____

5.8c

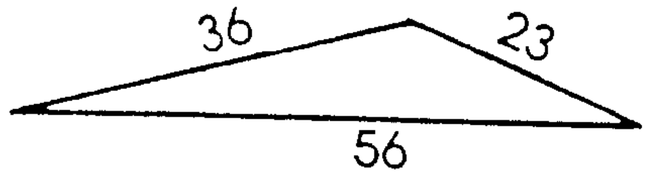
# AREA AND PERIMETER

Name_____

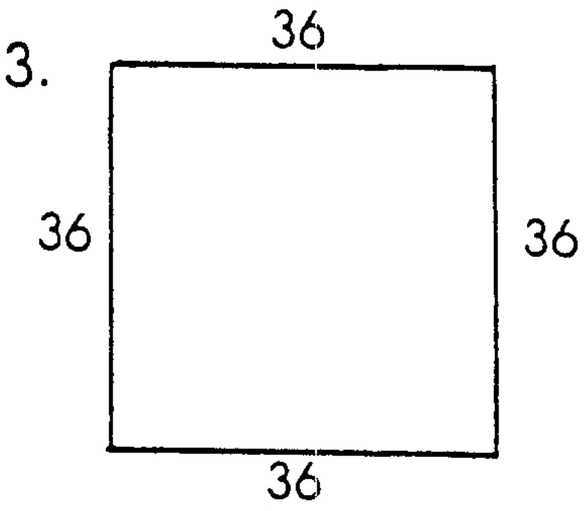
Use drawings to answer puzzles.

Across

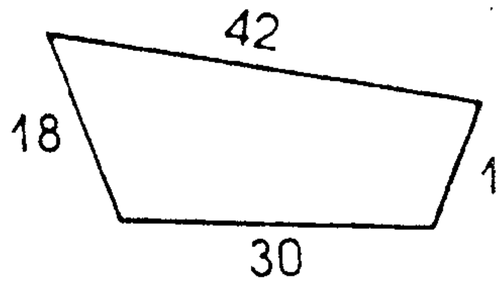
1.




3.

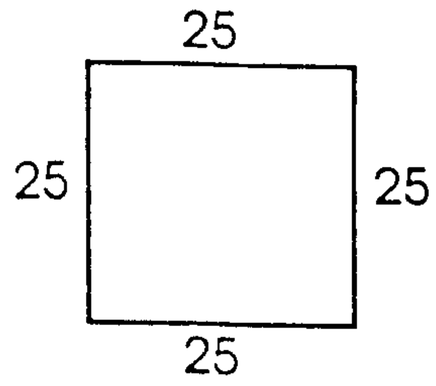



5.

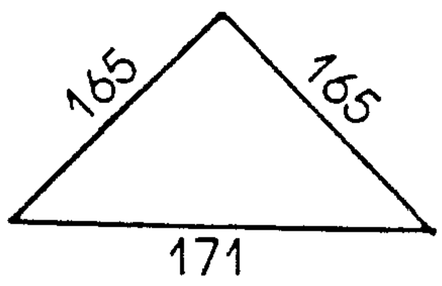



Down

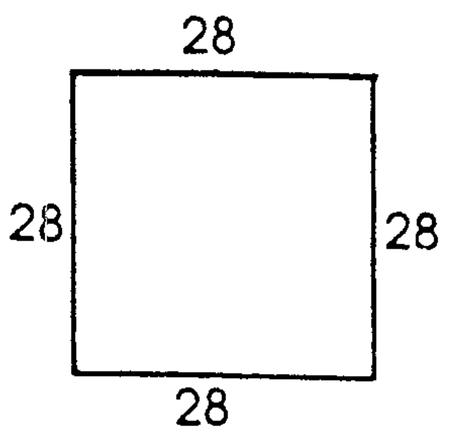
1.




2.




3.

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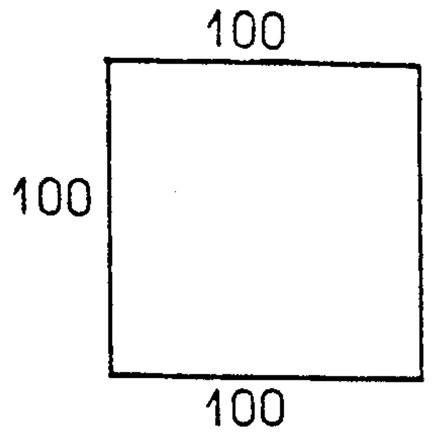
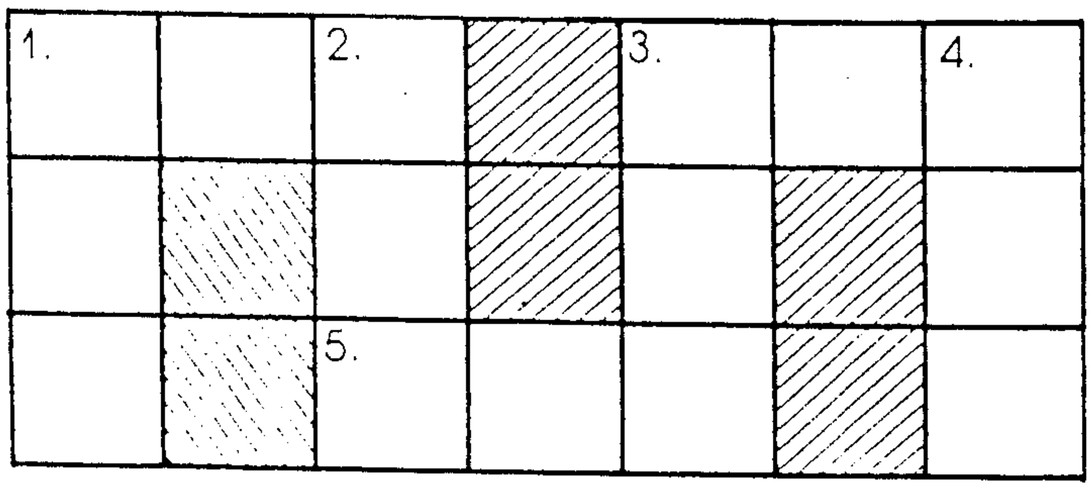
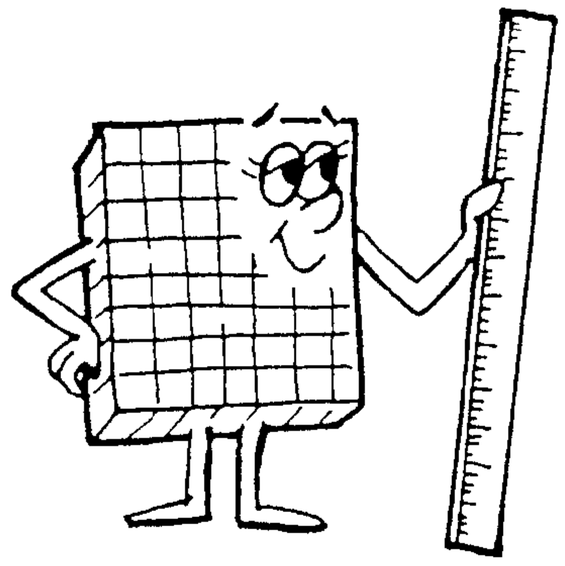


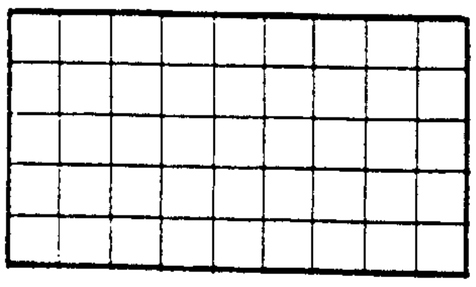

Perimeter



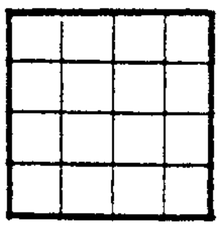



Across

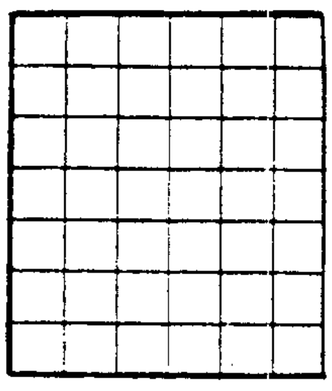
1.



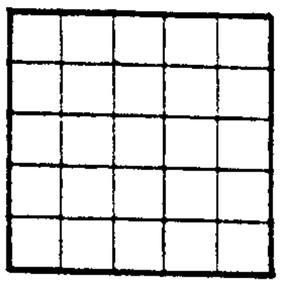
2.



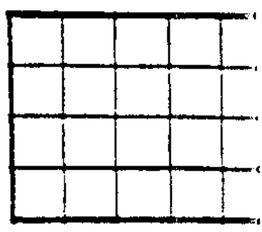
3.



4.

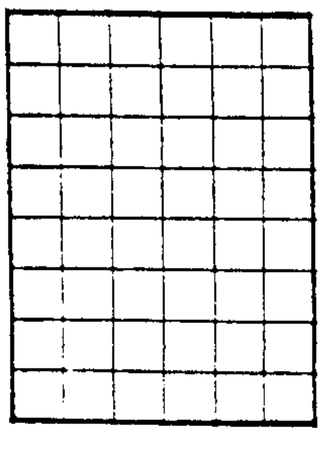


5.

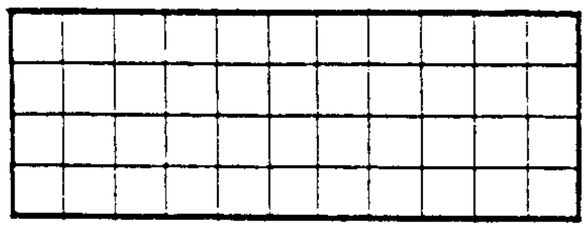


Down

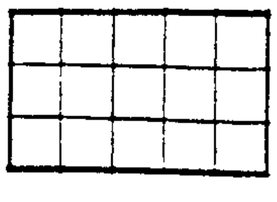
1.



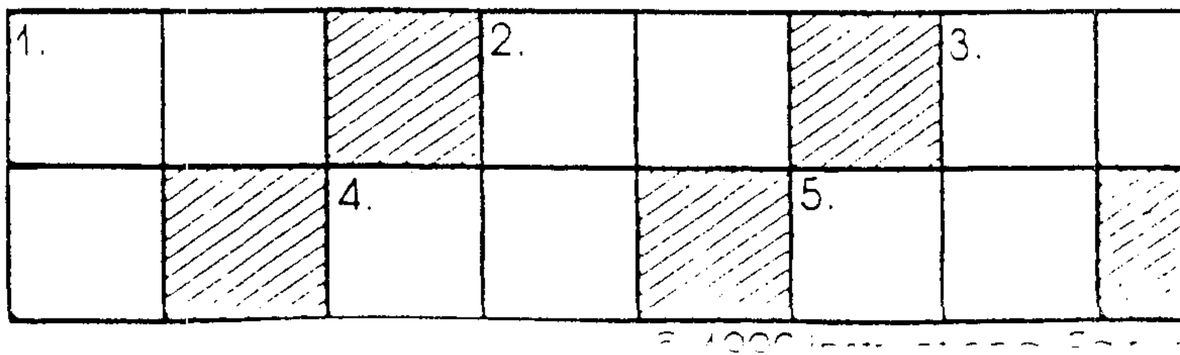
3.



2.



Area



Name: _____

# SOL Checkpoint Test

**5.10 The student will differentiate between area and perimeter and identify whether the application of the concept of perimeter or area is appropriate for a given situation.**

For each situation below, decide whether you need to find the perimeter or the area and then solve the problem.

1. A local school is designing a playground 120 meters long and 95 meters wide for their schoolyard. How much fencing will be needed to enclose the playground?

   A. 215 meters
   B. 430 meters
   C. 11,400 meters
   D. 5,700 meters

2. The base of the Smith family's triangular-shaped garden is 15 meters. The height of the triangular-shaped garden is 40 meters. How many square meters of flowers will the Smith family plant?

   A. 600 square meters
   B. 110 square meters
   C. 1,200 square meters
   D. 300 square meters

3. Which is an example of area?

A. wall to wall carpeting
B. picture frame
C. hem on a dress
D. fencing

4. Which is an example of perimeter?

A. the length of a pool
B. square yards on a football field
C. depth of a pool
D. distance around the football field

5. Which statement has the concept of perimeter?

A. Susan jogged down the road.
B. Charles filled his bucket with water.
C. Rashidah covered her floor with tile.
D. Sayida walked around the swimming pool.

6. Which statement has the concept of area?

A. Susan jogged down the road.
B. Charles filled his bucked with water.
C. Rashidah covered her floor with tile.
D. Sayida walked around the swimming pool.

7. A famous Italian painting needs to have its mahogany frame replaced. The painting is 125 feet long and 65 feet wide. You need to determine how much framing material is needed. What concept is used?

A. perimeter
B. area
C. both perimeter and area
D. none of the above

8. Mrs. Koziol needs to cover her bulletin board with colorful paper. The length of the board is 17 yards, and the width is 1.5 yards. You need to determine how much paper Mrs. Koziol needs. What concept is used to solve this problem?

A. perimeter
B. area
C. both perimeter and area
D. none of the above

9. Which items below represent the concept of area?

A. pool cover, bedspread, barbed wire
B. carpeting, ceiling tiles, window frame
C. tablecloth, bedspread, pool cover
D. fencing, border, picture frame

10. Which items below represent the concept of perimeter?

A. pool cover, bedspread, barbed wire
B. carpeting, ceiling tiles, window frame
C. tablecloth, bedspread, pool cover
D. fencing, border, picture frame

5.8b

Name: _____

# SOL Checkpoint Test

**5.8 The student will describe and determine the perimeter of a polygon and the area of a square, rectangle, and triangle, given the appropriate measures.**

1. Patricia is having wall-to-wall carpet installed in her master bedroom. The bedroom is 12 feet long and 8 feet wide. How much carpet should Patricia be prepared to purchase?

   A. 20 square feet
   B. 40 square feet
   C. 96 square feet
   D. 192 square feet

2. What is the area of a triangle with a base of 2 yards and a height of 3 yards?

   A. 2 square yards
   B. 3 square yards
   C. 4 square yards
   D. 6 square yards

3. What is the area of a rectangle whose length is 4 centimeters and width is 2 centimeters?

A. 4 square centimeters
B. 12 square centimeters
C. 6 square centimeters
D. 8 square centimeters

4. Mr. Johnson must buy enough material to cover his square swimming pool for the winter. If the swimming pool is 45 feet on a side, how much material will he need?

A. 2,025 square feet
B. 90 square feet
C. 180 square feet
D. 8,100 square feet

5. Mrs. Johnson wants to be sure that her husband builds a fence around the pool while he is making the cover. Based on the measurements in #4 above, how much fencing material will he need?

A. 2,025 feet
B. 90 feet
C. 180 feet
D. 8,100 feet

6. How do you find the perimeter of a triangle?

A. P=length x width
B. P=side + side + side
C. P=(base x height) ÷ 2
D. P=side x side x side

7. How do you find the area of a triangle?

A. A=length x width
B. A=side + side + side
C. A=(base x height) ÷ 2
D. A=side x side x side

8. Georgina is applying fish border around the top of her octagonally-shaped kitchen walls. Each wall is 33 feet in length. How much fish border does she need in all?

A. 264 feet
B. 264 square feet
C. 132 feet
D. 132 square feet

9. Paul is putting down indoor/outdoor carpet on his new deck. The rectangular-shaped deck is 65.5 feet long and 40 feet wide. How much carpet will he need to purchase?

A. 105.5 square feet
B. 211 square feet
C. 2,620 square feet
D. 262.0 square feet

10. Alan's rectangular backyard has an area of 6,000 square feet. If the length of the backyard is 80 feet, how wide is the backyard?

A. 5,920 feet
B. 480,000 feet
C. 6,080 feet
D. 75 feet

5.8 d

Name _____

11.5 USE WHAT YOU KNOW

# The Metric System

Choose the smaller unit of measure. Circle *a* or *b*.

1. **a.** kilogram
   **b.** milligram

2. **a.** centimeter
   **b.** decimeter

3. **a.** liter
   **b.** milliliter

Choose the larger unit of measure. Circle *a* or *b*.

4. **a.** milliliter
   **b.** liter

5. **a.** kilometer
   **b.** millimeter

6. **a.** gram
   **b.** kilogram

Complete the table.

| | km | m | dm | cm | mm |
|---|---|---|---|---|---|
| 7. | 8 m | 0.008 | 8 | | 800 | 8,000 |
| 8. | 2 m | | 2 | 20 | 200 | 2,000 |
| 9. | 20 m | 0.02 | 20 | 200 | | 20,000 |
| 10. | 35 m | 0.035 | 35 | 350 | 3,500 | |

Write each as a decimal, using the base unit.

11. 3 g _____

12. 20 mL _____

13. 16 mm _____

14. 23 mg _____

15. 9 cm _____

## Mixed Applications

16. Suzanne needs a piece of wire 22 dm long. Joey needs a piece of wire 22 cm long. Who needs the longer piece?

_____

17. Barbara made a clay sculpture that has a mass of 92 kg. If Luis wants to make a similar sculpture that is $\frac{1}{1,000}$ the size of Barbara's, how much clay will he need?

_____

## EVERYDAY MATH CONNECTION

Carlos is painting the 8 rooms of his house. All the rooms are the same size. He needs 11.4 L to paint one room.

18. How much paint will he need to paint 4 rooms? _____

19. How much paint will he need to paint all 8 rooms? _____

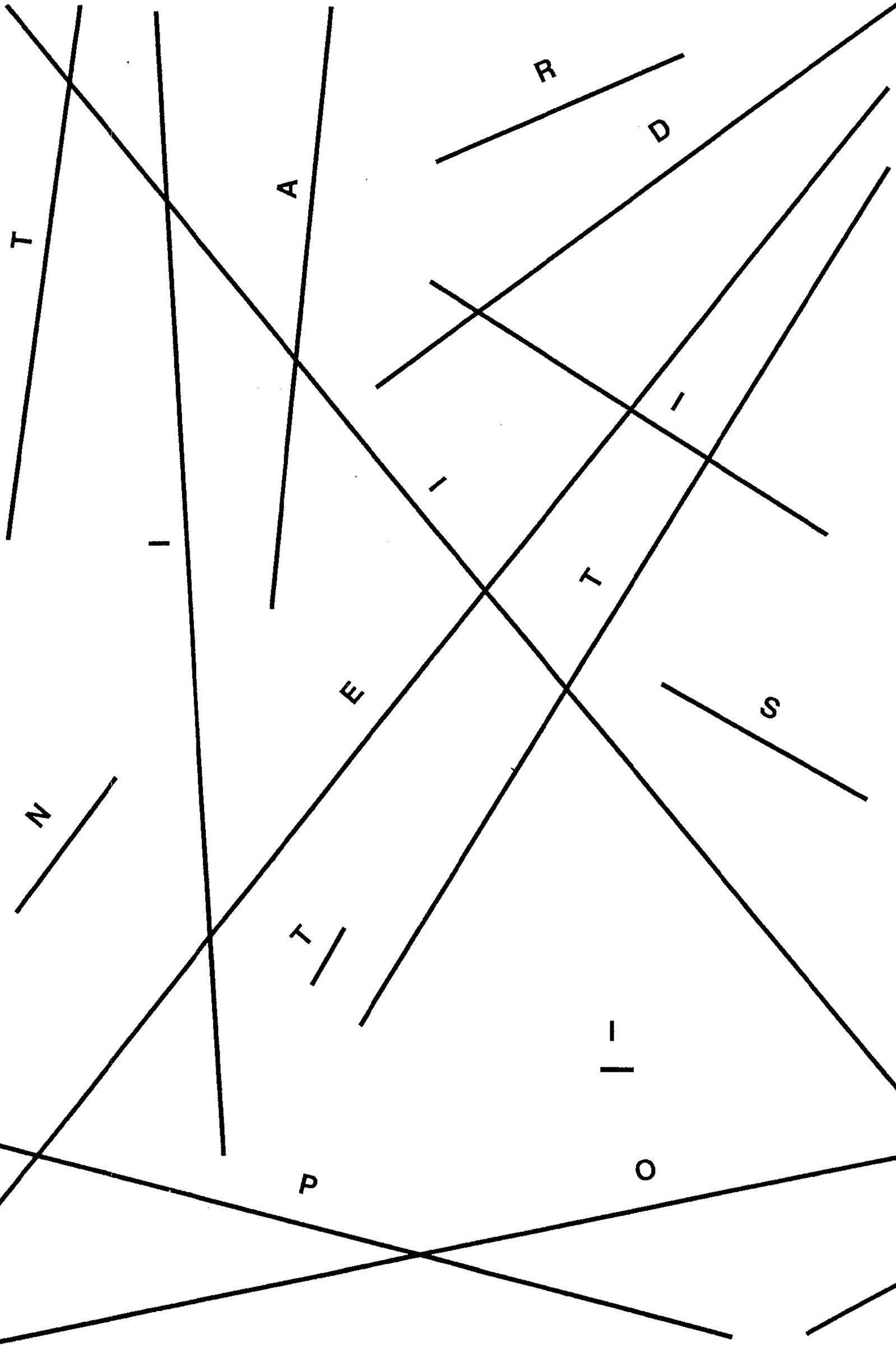
Name _____ Metric measurement

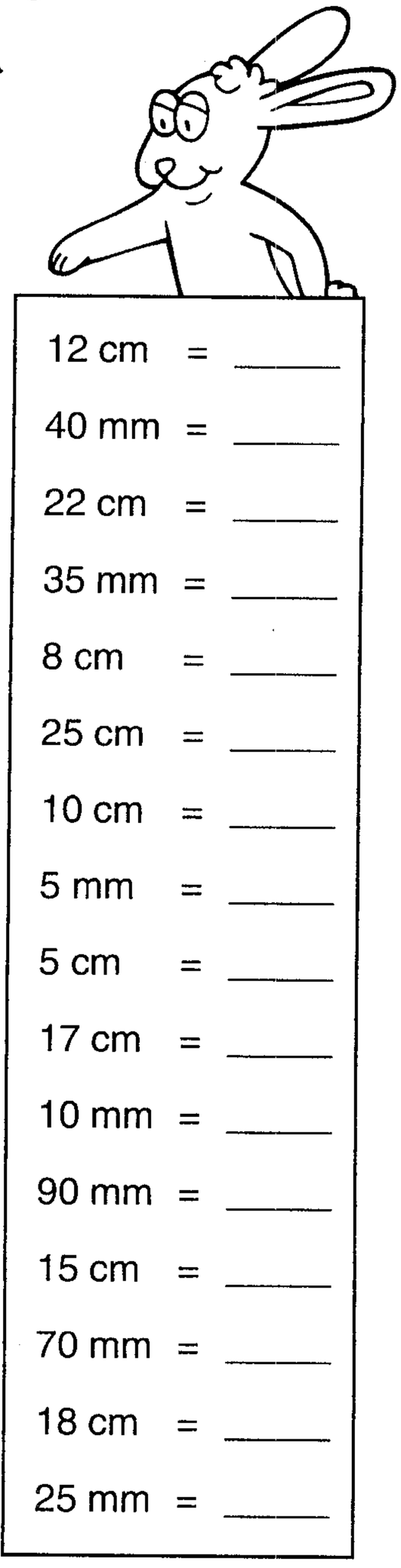
5.8d

# Now You See It...Now You Don't!

*Sleight of hand* is one of the most common kinds of magic. It includes tricks that depend on the skillful use of the hands. Sleight-of-hand tricks are often performed with a deck of cards. One of the oldest sleight-of-hand routines was performed in ancient Egypt!

Complete the puzzle below to learn another name for sleight of hand. Use a metric ruler to measure each segment. Write the segment name in the blank with its matching measurement.



12 cm = _____

40 mm = _____

22 cm = _____

35 mm = _____

8 cm = _____

25 cm = _____

10 cm = _____

5 mm = _____

5 cm = _____

17 cm = _____

10 mm = _____

90 mm = _____

15 cm = _____

70 mm = _____

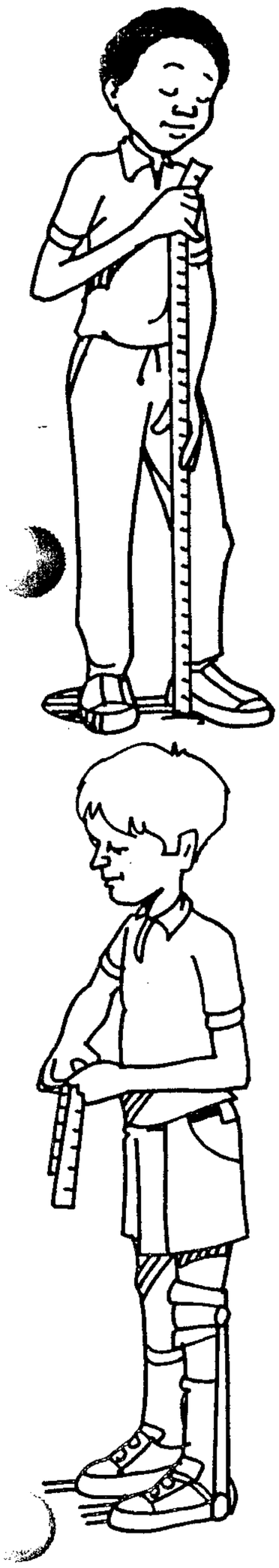
18 cm = _____

25 mm = _____

Name _____ Activity Worksheet 26

# Measuring Yourself

Use a customary measuring tape to measure different parts of your body. Write each measurement to the nearest inch, half-inch, quarter-inch and eighth-inch.



| What to Measure | to nearest inch | to nearest $\frac{1}{2}$ inch | to nearest $\frac{1}{4}$ inch | to nearest $\frac{1}{8}$ inch |
|---|---|---|---|---|
| Around your head | | | | |
| Around your waist | | | | |
| Around your ankle | | | | |
| Around your neck | | | | |
| Around your fist | | | | |
| From your nose to your knee | | | | |
| From your knee to your big toe | | | | |
| From your shoulder to your thumbnail | | | | |
| From your waist to the floor (standing up) | | | | |
| From your left ear to your right ear | | | | |
| The farthest apart you can get your hands | | | | |

5.8e

Name _____

**11.5 USE WHAT YOU KNOW**

# The Metric System

Choose the smaller unit of measure. Circle *a* or *b*.

1. **a.** kilogram
   **b.** milligram

2. **a.** centimeter
   **b.** decimeter

3. **a.** liter
   **b.** milliliter

Choose the larger unit of measure. Circle *a* or *b*.

4. **a.** milliliter
   **b.** liter

5. **a.** kilometer
   **b.** millimeter

6. **a.** gram
   **b.** kilogram

Complete the table.

| | km | m | dm | cm | mm |
|---|---|---|---|---|---|
| 7. | 8 m | 0.008 | 8 | | 800 | 8,000 |
| 8. | 2 m | | 2 | 20 | 200 | 2,000 |
| 9. | 20 m | 0.02 | 20 | 200 | | 20,000 |
| 10. | 35 m | 0.035 | 35 | 350 | 3,500 | |

Write each as a decimal, using the base unit.

11. 3 g _____

12. 20 mL _____

13. 16 mm _____

14. 23 mg _____

15. 9 cm _____

## Mixed Applications

16. Suzanne needs a piece of wire 22 dm long. Joey needs a piece of wire 22 cm long. Who needs the longer piece?

_____

17. Barbara made a clay sculpture that has a mass of 92 kg. If Luis wants to make a similar sculpture that is $\frac{1}{1,000}$ the size of Barbara's, how much clay will he need?

_____

## EVERYDAY MATH CONNECTION

Carlos is painting the 8 rooms of his house. All the rooms are the same size. He needs 11.4 L to paint one room.

18. How much paint will he need to paint 4 rooms? _____

19. How much paint will he need to paint all 8 rooms? _____

Name _____

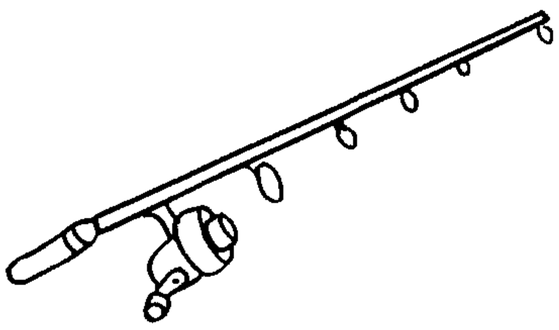


5.8e

# Great Catch!

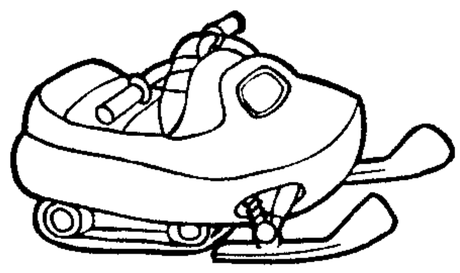
Color the item green if the unit of measure is reasonable.
Color the item blue if the unit of measure is not reasonable.
Then cross out the unreasonable unit and write the correct unit next to it. Use the word bank for help.

1. fishing rod and reel



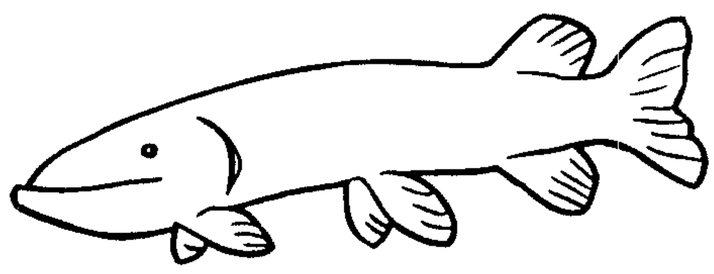
pounds

2. snowmobile



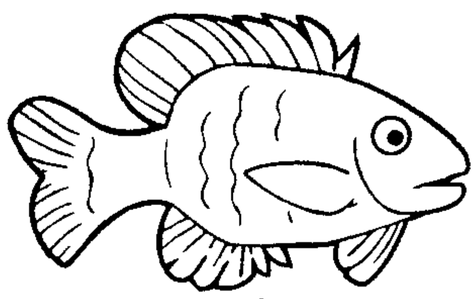
tons

3. two-foot-long northern pike



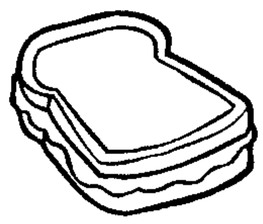
ounces

4. three-inch-long bluegill



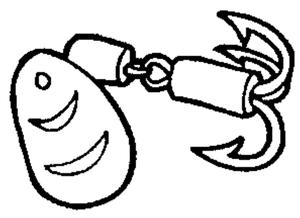
pounds

5. peanut butter and jelly sandwich



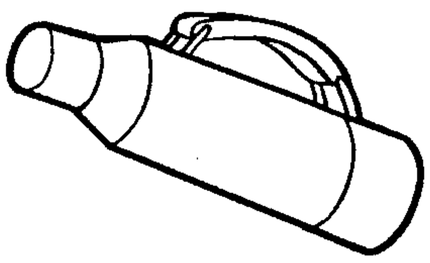
pounds

6. fishing lure



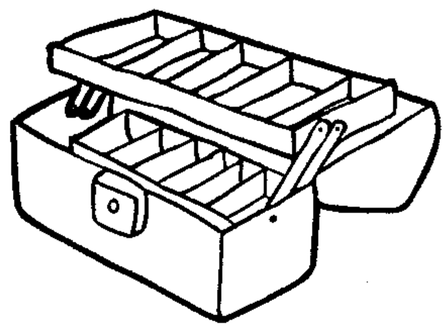
ounces

7. thermos of coffee



gallons

8. empty tackle box

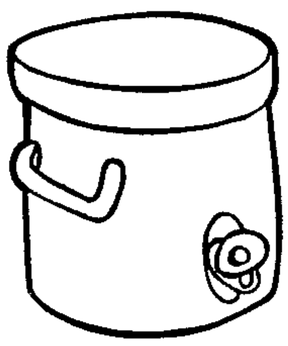


pounds

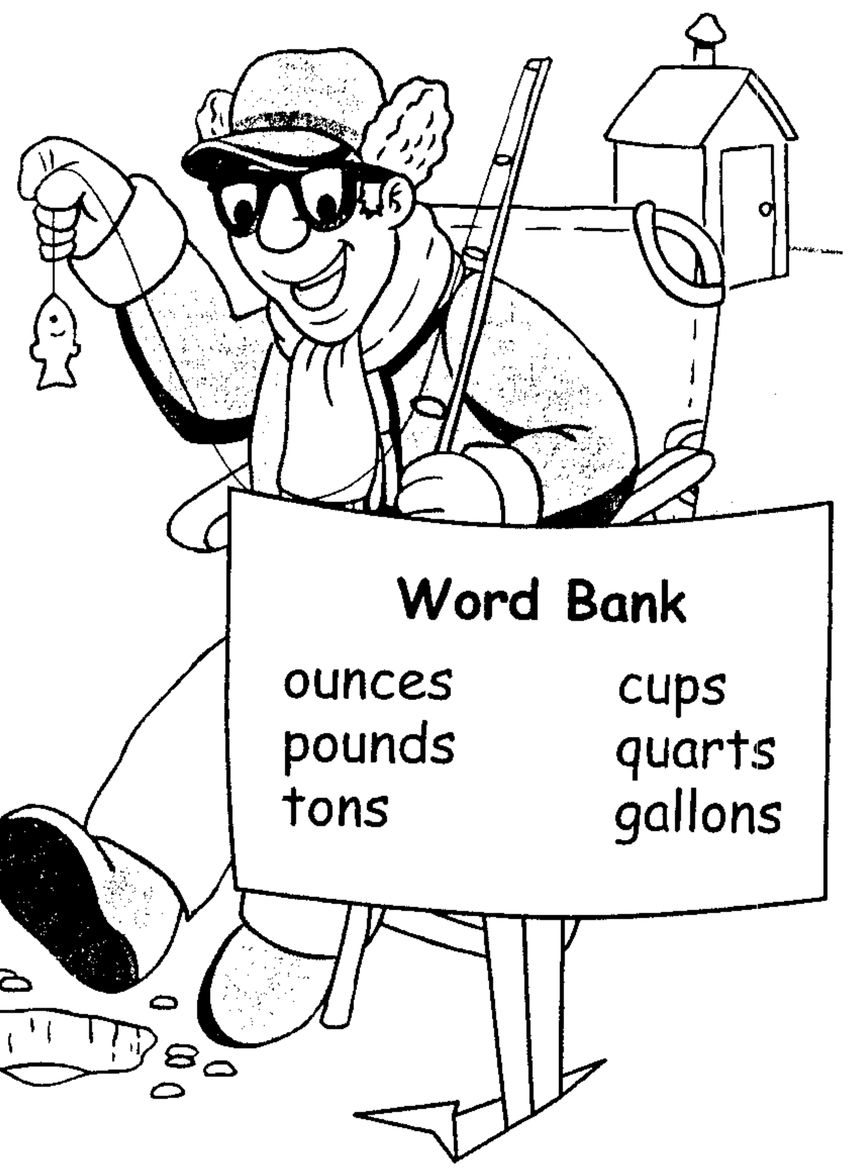
9. bag of chips


ounces

10. water cooler



quarts



# 83. Finding Perimeter and Area

**MATERIALS** Activity Worksheet 27, customary measuring tapes, rectangular objects

Hold up a rectangular object and discuss which dimension is its length and which is its width. Measure its length to the nearest inch, half-inch, and quarter-inch. Point out that the smaller measure is more precise to use. Repeat for the width.

Review the meaning of perimeter as the measure of the distance around the rectangle. Add the measures of the lengths of all the sides of the rectangle to find the perimeter.

Discuss the meaning of area as the number of square units that fill the inside of the rectangle. The area of a rectangle can be found by multiplying its length by its width.

Distribute Activity Worksheet 27 and have students work in pairs to complete the worksheet.

**EXTENSIONS** Extend the activity with these:

**a.** Measure the objects on the worksheet to the nearest half-inch or quarter-inch. Calculate the perimeter and area and compare the results with the first results.

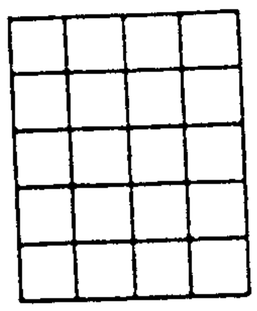
**b.** Find perimeter and area of triangular objects.

5.8

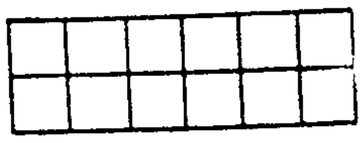
Name _____ Use with text pages 380-383.

# Finding Area

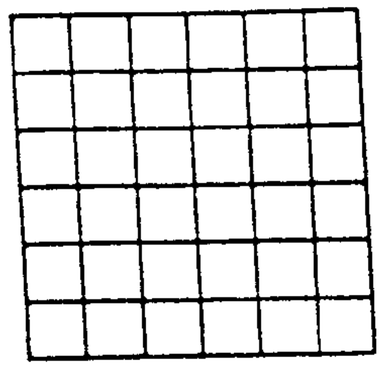
Find the area by counting the unit squares.

1. 

_____

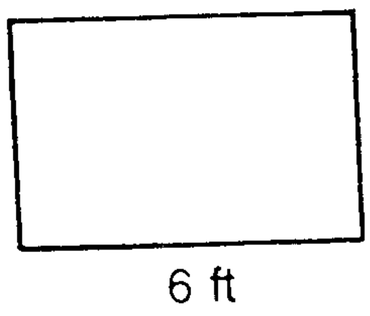
2. 

_____

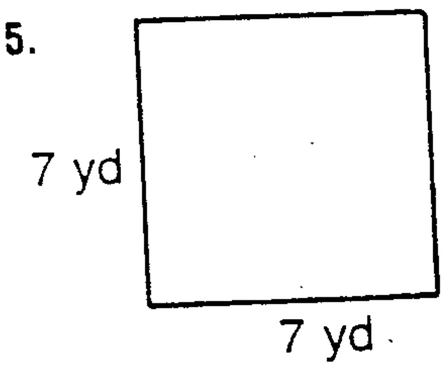
3. 

_____

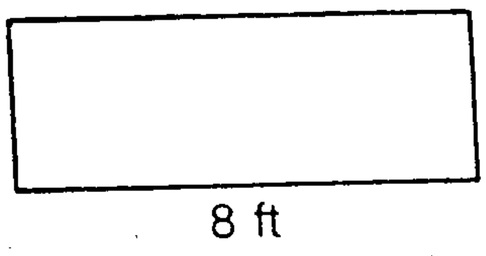
Find the area by multiplying.

4. 

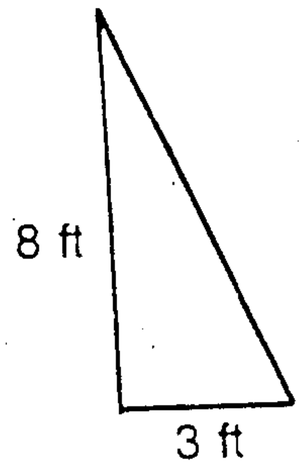

_____

5. 

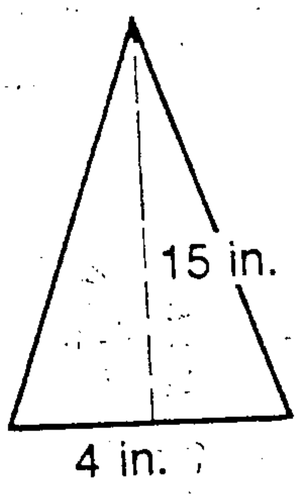

_____

6. 

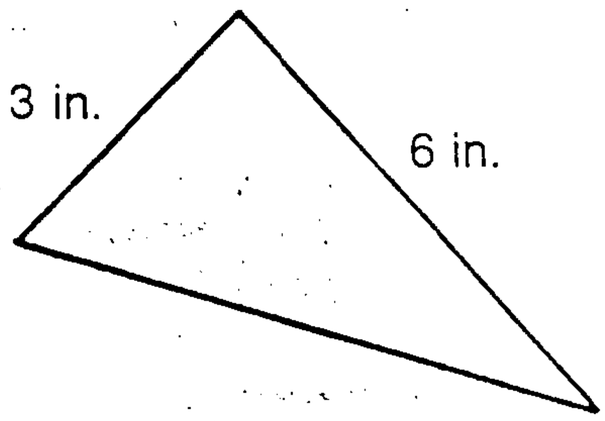

_____

7. 


_____

8. 


_____

9. 


_____

## Mixed Review

Write each answer in lowest terms.

1. $2\frac{1}{8} + 4\frac{3}{8}$ ____
2. $2\frac{1}{9} + 3\frac{4}{9}$ ____
3. $1\frac{1}{7} + 2\frac{1}{7}$ ____
4. $8\frac{3}{4} - 1\frac{1}{4}$ ____
5. $3\frac{6}{7} - 2\frac{1}{7}$ ____
6. $4\frac{7}{8} - 2\frac{5}{8}$ ____
7. $\frac{1}{2} \times 3$ ____
8. $4 \times \frac{3}{4}$ ____
9. $\frac{3}{8} \times 4$ ____
10. $\frac{1}{16} \div \frac{1}{8}$ ____
11. $\frac{2}{3} \div \frac{3}{4}$ ____
12. $\frac{1}{5} \div \frac{1}{10}$ ____

# Monkeying Around With Measurement

Get into the swing of customary or metric measurement with these creative hands-on activities!

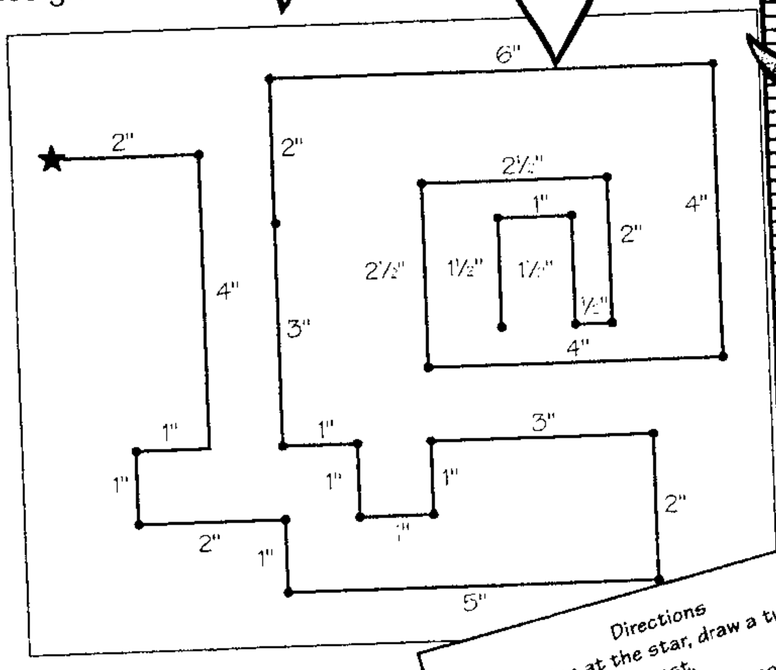
*by Shawna Graham, The Colony, TX*

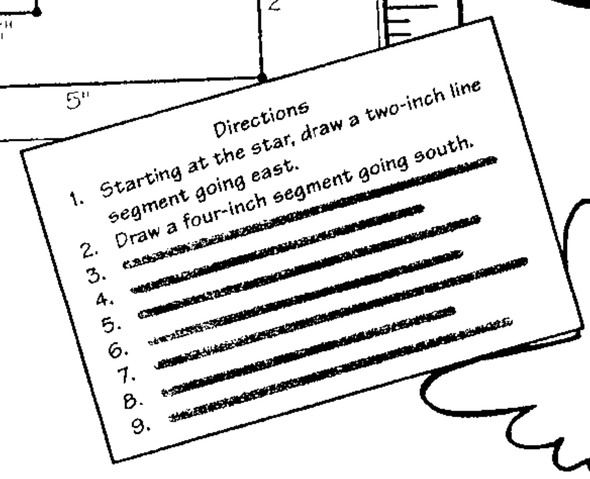
## Linear Designs

**Skill: Measuring customary or metric units of length**

Make practicing linear measurement more "a-peeling" with this fun-to-do activity! Give each student a sheet of drawing paper, a ruler, an index card, and an envelope. Instruct him to draw a small star somewhere on his paper. Then have him create a design that starts at the star and consists of connecting line segments that run north, south, east, or west (see the example). Direct the student to draw one segment at a time and label its length; then have him record on his index card the length of the segment and the direction in which it was drawn (as shown). When he is satisfied with his design, have the student fold it and place it and the directions in his envelope.

Next, give each child another sheet of drawing paper and have him trade envelopes with a classmate. Challenge each student to remove only the index card from the envelope and follow its directions to re-create his partner's design. To check, just have each student unfold the original drawing in the envelope and compare!





Directions
1. Starting at the star, draw a two-inch line segment going east.
2. Draw a four-inch segment going south.
3.
4.
5.
6.
7.
8.
9.

## Do Size and Shape Matter?

**Skills: Estimating and measuring customary or metric units of capacity**

All you need for this eye-opening activity on capacity is a liquid measuring cup and a variety of empty containers. Have students bring in clean, empty containers of different sizes and shapes (with labels removed), such as a plastic soda bottle, peanut butter jar, or salad dressing bottle. When you have at least 15 containers, number each one with a marker and randomly display them in front of the room.

Next, divide the class into pairs. Challenge the partners to discuss each container's size and shape. Then have the pairs list the containers' numbers in order from least to greatest capacity. When everyone is finished, discuss students' rankings. Then, starting with the container predicted to have the smallest capacity, fill each container with water and have volunteers measure and record the results on the board. Ask other volunteers to adjust the containers' arrangement, if needed, to keep them in order by capacity. Once the arrangement is correct, have students discuss the outcome and which containers deceived them.

## Measurement Cover-Up

**Skill: Choosing appropriate units of length, weight, and capacity**

This cool game makes practicing all three types of customary or metric measurement more fun than a barrel of monkeys! Write each object and its approximate measurement shown below on a separate index card. List only the objects on the board. Direct each student to draw a three-by-three grid on his paper and randomly label each box with a different object from the list. Give each child beans or counters to use as markers. Then draw a card and announce its measurement (but not the object). If a student has an item on his grid that matches the announced measurement, instruct him to cover that space with a marker. Have the first player to cover three boxes in a row yell, "Measurement Cover-Up!" Check his answers. If correct, declare that player the winner and have everyone clear their grids for another round!

| | | |
|---|---|---|
| football field | person's arm | newborn baby |
| elephant | ham sandwich | milk jug |
| paper clip | large dog | serving of soda |

new pencil *7½ in.*
football field *100 yd.*
person's arm *2 ft.*
paper clip *1 in.*
large bucket *5 gal.*
milk jug *1 gal.*
newborn baby *8 lb.*
large dog *80 lb.*
container of yogurt *8 oz.*
elephant *1 ton*
small carton of milk *1 pt.*
container of orange juice *2 qt.*
serving of soda *1 c.*
ham sandwich *5 oz.*

## Measurement Memory Cards

**Skill: Reviewing customary or metric units of measurement**

Count on students to go bananas over this activity on reviewing customary or metric measurement! Review standard customary or metric units with students. Then divide the class into groups of four and give each group a ruler. Guide the groups to brainstorm everyday objects that could be measured using inches, feet, yards, and miles (or millimeters, centimeters, meters, and kilometers). For example, yards are used to measure the length of a football field and inches to measure a pencil. List students' responses on the board. Next, give each child four index cards cut in half. Instruct each child to label each of four cards with a different unit of measure. Then have him illustrate and label each remaining card with an object that represents the approximate length of one of the units (see the examples). When finished, each child will have his own set of measurement memory cards for reviewing or playing a matching game with a partner!

## 5.9 The student will identify and describe the diameter, radius, chord, and circumference of a circle.

| UNDERSTANDING THE STANDARD (Background Information for Instructor Use Only) | ESSENTIAL UNDERSTANDINGS | ESSENTIAL KNOWLEDGE AND SKILLS |
|---|---|---|
| • A circle is a set of points on a flat surface (plane) with every point equidistant from a given point called the *center*.<br>• A chord is a line segment connecting any two points on a circle. Students will benefit from understanding that a chord goes from one side of the circle to the other, but does not need to pass through the center.<br>• A diameter is a chord that goes through the center of a circle. The diameter is two times the radius. A radius is a segment from the center of a circle to any point on the circle. Two radii end-to-end form a diameter of a circle.<br>• Circumference is the distance around or perimeter of a circle. The circumference is about 3 times larger than the diameter of a circle. | **All students should**<br>• Understand that a chord is a line segment that extends between any two unique points of a circle.<br>• Understand that a diameter is also a special chord that goes through the center of a circle.<br>• Understand the relationship between the measures of diameter and radius and the relationship between the measures of radius and circumference.<br>• Understand that a radius is a line segment that extends between the center and the circumference of the circle.<br>• Understand that the circumference is the distance around the circle. Perimeter is the measure of the circumference. | **The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to**<br>• Identify and describe the diameter, radius, chord, and circumference of a circle.<br>• Describe the relationship between<br>– diameter and radius;<br>– diameter and chord;<br>– radius and circumference; and<br>– diameter and circumference.<br>• The length of the diameter of a circle is twice the length of the radius. |