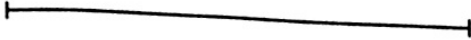
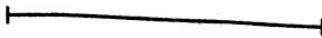


Name _____

Using Customary Units of Length

Measure each segment to the nearest inch, $\frac{1}{2}$ inch, $\frac{1}{4}$ inch, and $\frac{1}{8}$ inch.

1. 

2. 

3. **Reasoning** Sarah gave the same answer when asked to round $4\frac{7}{8}$ in. to the nearest $\frac{1}{2}$ inch and the nearest inch. Explain why Sarah is correct.

4. Estimate the length of your thumb. Then use a ruler to find the actual measure.

5. **Estimation** A real motorcycle is 18 times as large as a model motorcycle. If the model motorcycle is $5\frac{1}{16}$ in. long, about how long is the real motorcycle?

- A** 23 in. **B** 48 in. **C** 90 in. **D** 112 in.

6. **Explain It** If a line is measured as $1\frac{4}{8}$ in. long, explain how you could simplify the measurement.

Name _____

Using Metric Units of Length

Measure each segment to the nearest centimeter then to the nearest millimeter.

1. 2. 

Number Sense Some of the events at an upcoming track and field meet are shown at the right.

Track and Field Events

50-m dash
1,500-m dash
400-m dash
100-m dash

3. In which event or events do athletes travel more than a kilometer?

4. In which event or events do athletes travel less than a kilometer?

5. **Reasonableness** Which unit would be most appropriate for measuring the distance from Chicago to Miami?

A mm

B cm

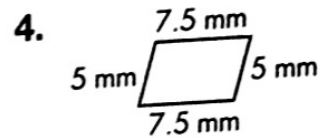
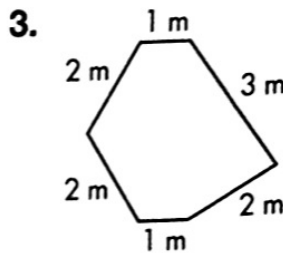
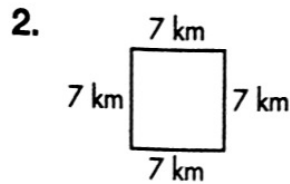
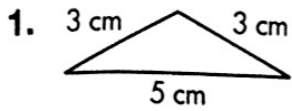
C m

D km

6. **Explain It** List one item in your classroom you would measure using centimeters and one item in the classroom you would measure using meters.

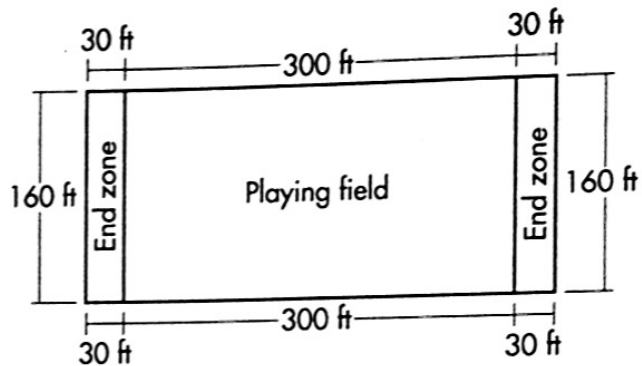
Perimeter

Find the perimeter of each figure.



5. **Number Sense** What is the perimeter of a square if one of the sides is 3 mi? _____

Use the dimensions of the football field shown at the right for 6 and 7.

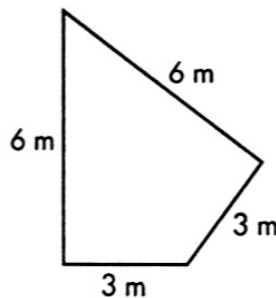


6. What is the perimeter of the entire football field including the end zones?

7. What is the perimeter of each end zone?

8. What is the perimeter of this figure?

- A 18 m C 12 m
B 15 ft D 10 ft

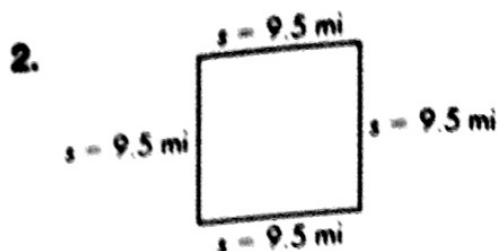
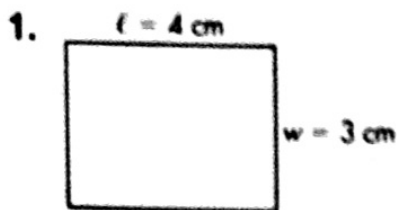


9. **Explain It** A rectangle has a perimeter of 12 m. If each side is a whole number of meters, what are the possible dimensions for the length and width? List them and explain your answer.

Name _____

Areas of Squares and Rectangles

Find the area of each figure.



3. a rectangle with sides 6.5 km and 3.4 km

4. a square with a side of 10.2 ft

5. a rectangle with sides 9 m and 9.2 m

6. **Number Sense** Which units would you use to measure the area of a rectangle with $l = 1 \text{ m}$ and $w = 34 \text{ cm}$? Explain.

7. Which of the following shapes has an area of 34 ft^2 ?

A a square with $s = 8.5 \text{ m}$

B a rectangle with $l = 15 \text{ ft}$, $w = 2 \text{ ft}$

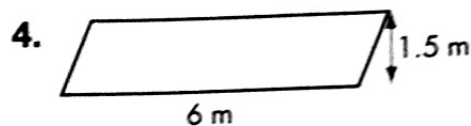
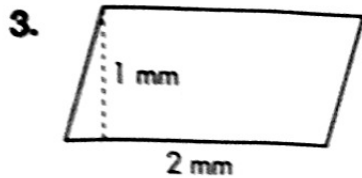
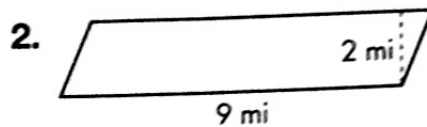
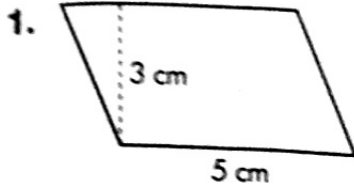
C a square with $s = 16 \text{ ft}$

D a rectangle with $l = 17 \text{ ft}$, $w = 2 \text{ ft}$

8. **Explain It** The area of a square is 49 m^2 . What is the length of one of its sides? Explain how you solved this problem.

Area of Parallelograms

Find the area of each parallelogram.



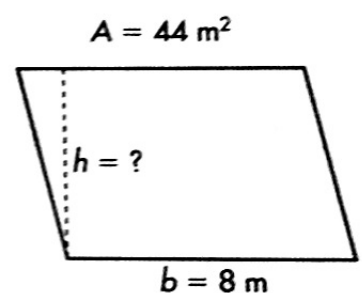
Algebra Find the missing measurement for the parallelogram.

5. $A = 34 \text{ in}^2$, $b = 17 \text{ in.}$, $h =$ _____

6. List three sets of base and height measurements for parallelograms with areas of 40 square units.

7. Which is the height of the parallelogram?

- A 55 m
 B 55.5 m
 C 5 m
 D 5.5 m

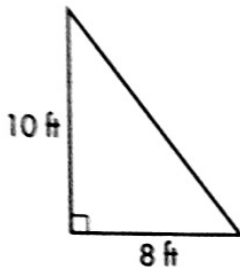


8. **Explain It** What are a possible base and height for a parallelogram with an area of 45 ft^2 if the base and height are a whole number of feet? Explain how you solved this problem.

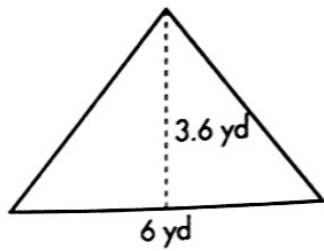
Area of Triangles

Find the area of each triangle.

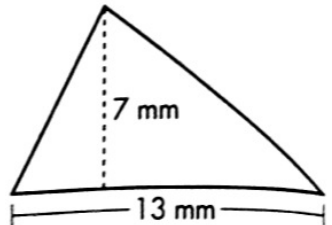
1.



2.



3.



4. **Number Sense** What is the base measurement of a triangle with an area of 30 m^2 and a height of 10 m?

Algebra Find the missing measurement for each triangle.

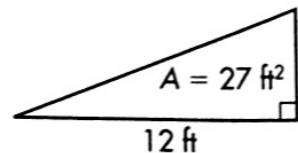
5. $A = 36 \text{ mi}^2$, $b =$ _____, $h = 12 \text{ mi}$

6. $A =$ _____, $b = 12 \text{ mm}$, $h = 7.5 \text{ mm}$

7. List three sets of base and height measurements for triangles with areas of 30 square units.

8. Which is the height of the triangle?

- A 4.5 ft C 8 ft
B 6 ft D 9 ft

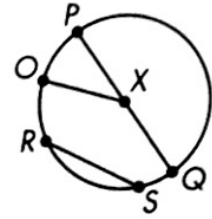


9. **Explain It** Can you find the base and height measurements for a triangle if you know that the area is 22 square units? Explain why or why not.

Circles and Circumference

In 1 through 3, use circle X to identify the following.

1. a diameter 2. two chords 3. a central angle



In 4 through 9, find the circumference. Use 3.14 for π .

4. $d = 20$ in. 5. $d = 5$ yd 6. $d = 9$ cm

7. $r = 3.20$ in. 8. $r = 13$ ft 9. $r = 20$ yd

10. A round swimming pool has a radius of 8 meters. What is its circumference?

11. **Estimation** The length of the diameter of a circle is 11 centimeters. Is the circumference more or less than 33 centimeters? Explain.

12. Which equation can be used to find the circumference of a circle with a radius that measures 10 feet?

- A** $C = 2 \times \pi \times 20$ **C** $C = \pi \times 1.0$
- B** $C = 2 \times \pi \times 10$ **D** $C = \pi \times 10$

Problem Solving: Draw a Picture and Make an Organized List

Draw a picture and make a list to solve.

1. Erica painted a picture of her dog. The picture has an area of $3,600 \text{ cm}^2$ and is square. She has placed the picture in a frame that is 5 cm wide. What is the perimeter of the picture frame?

2. The new playground at Middledale School will be enclosed by a fence. The playground will be rectangular and will have an area of 225 yd^2 . The number of yards on each side will be a whole number. What is the least amount of fencing that could be required to enclose the playground?

3. **Reasoning** Evan is thinking of a 3-digit odd number that uses the digit 7 twice. The digit in the tens place is less than one. What is the number?
A 707
B 717
C 770
D 777
4. **Explain It** Explain how you solved Exercise 3.
