

L	W	P	A
6.	8 m.	17 m.	50 m.
7.	12 in.	8 in.	40 in.
8.	4.5 ft.	10 ft.	29 ft.
9.	12 cm.	13 cm.	50 cm.
10.	6 km.	3 km.	18 km.
			18 sq. km.

5. 32 sq in

4. 62.8 m

15. 27 cm

(c) 200.96 sq m

14. Circle: $78.5 > 64$

(b) 50.24 m

3. (a) 16 m

13. Square: $32 > 31.4$

2. 22 sq ft

12. 22.28 sq m

1. 17.9 in

11. 18.28 m

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BASIC MATH

The Complete Course

Lesson Twenty

Geometry 2

KA8420

Teaching Guide & Worksheet

HOW TO USE THIS PROGRAM

1. The "STOP TO THINK" signal means pause to think
2. The "STOP TO WORK" signal means work the problem(s)
3. Use the index to find specific items
4. Rewind the tape and watch the lesson again if the concept is not clear
5. Complete exercises on the worksheet to confirm understanding

LEARNING STRATEGIES

PERIMETER

- A. Perimeter
- "Peri" means around
 - "Meter" is to measure
 - Perimeter is the distance around a two-dimensional shape
- B. The uses of perimeter: border, fence, molding
- C. For all types of polygons, simply add up the lengths of the sides to obtain the perimeter
- D. Perimeter is measured in distance units: inches, meters, etc.
- E. Perimeter of a square
- All four sides are equal
 - Adding four equal numbers is the same as multiplying by four
 - Perimeter = 4 x side
- F. Perimeter of a rectangle
- The semiperimeter is halfway around
 - The semiperimeter = length + width
 - The perimeter is 2 x (length + width)

TRIANGLES

- A. A three-sided polygon
- B. A triangle may be classified by the largest of its three angles
- Acute
 - Right
 - Obtuse
- C. A triangle may be classified by the sides
- Equilateral: all sides equal
 - Isosceles: one pair of sides equal
 - Scalene: all sides different
- D. The area of a triangle
- Each triangle is one half of a parallelogram
 - The area is one half times the base times the height
 - The height or altitude may be inside or outside of the triangle
- E. To obtain the perimeter of a triangle, add the lengths of the sides

CIRCLES

- A. The definition: all points equidistant from a point called the center
- B. The parts of a circle
- Radius: distance from the center to a point on the circle
 - Chord: a line segment whose endpoints are on the circle
 - Diameter: a chord which contains the circle's center
 - Arc: a piece of the circle
- C. Circumference: the perimeter of a circle
- D. The discovery of the value of pi
- Pi is the ratio of circumference to diameter
 - The ratio is the same for ALL circles
 - Pi is the first letter in the Greek word for proportion
- E. We generally use 3.14 or 22/7 for pi
- F. The formula for the circumference is $C = \pi \times D$, or $2 \times \pi \times r$
- G. The area of a circle is equal to pi π times the square of the radius

THREE-DIMENSIONAL SHAPES

- A. Cube
- Basic unit of volume
 - Six faces
 - All faces are equal squares

- B. Prism
- Two polygons for bases
 - Rectangular faces
- C. Cylinder
- A prism
 - Both bases are circular
- D. Pyramid
- One polygon base
 - Triangular faces meet at a vertex
- E. Cone
- A pyramid
 - The base is a circle

WORKSHEET STRATEGIES

Solve the following:

1. A rectangle has a length of 3.2 inches and a width of $5 \frac{3}{4}$ inches. Find the perimeter.

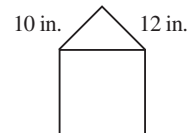
2. A triangle's base is $4 \frac{5}{7}$ feet and its height is $9 \frac{1}{3}$. Find its area.

3. A circle's radius is 8 meters. Find (using $\pi = 3.14$)

- its diameter
- its circumference
- its area

4. A circle's area is 314 square m. Use 3.14 for π and find the circumference.

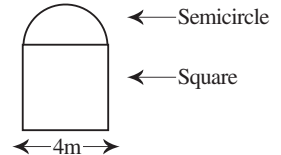
5. The triangle's perimeter is 30 inches. The rectangle's perimeter is 24 inches. Find the area of the rectangle.



Fill in the blanks for each rectangle.

	L	W	P	A
6.	8 m.	17 m.		
7.	12 in.		40 in.	
8.	4.5 ft.	10 ft.		45 sq. ft.
9.			50 cm.	156 sq. cm.
10.			18 km.	18 sq. km.

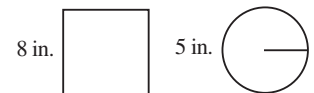
Use 3.14 for π



11. Find the perimeter.

12. Find the area.

13. Which perimeter is greater, the square or the circle?



14. Which area is greater?

15. The triangle is equilateral. The square area is 81 square centimeters. Find the perimeter of the triangle.

