

6A Perimeter and Area.doc

Prealgebra

Name: _____

Due Date: _____

WHY: Many everyday tasks require the calculation of perimeter, area, and volume. In this activity you will practice using formulas for perimeter, area, and volume of common shapes.

LEARNING OBJECTIVE:

- 1) Identify the appropriate formula and find the perimeter, area, and volume of common geometric shapes and combinations of common shapes.
- 2) Solve problems involving geometric shapes.

Useful formulas: Memorize these formulas.

Perimeter:

Polygon:..... add all sides

Circumference:

Circle:..... $C = \pi D = 2\pi r$

Area:

Rectangle & square:..... $A = LW$

Parallelogram..... $A = bh$

Triangle:..... $A = \frac{1}{2}bh$

Circle:..... $A = \pi r^2$

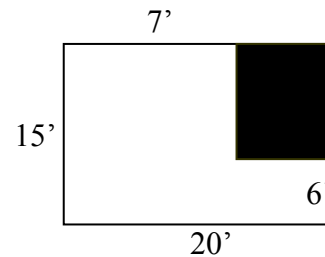
On the inside front cover of your textbook you will find formulas for perimeter, area, and volume of more shapes.

WARM-UP

- 1) Answer the following. Explain how you got your answer.
 - a) What is the perimeter of an $8\frac{1}{2}'' \times 11''$ sheet of notebook paper? What is the area?
 - b) What is the perimeter of a circular pizza with a radius of 5 inches? What is its area?

ACTIVITY:

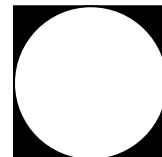
- 1) You plan to fence the unshaded area for a vegetable garden.
 - a) Will 70-feet of fencing be enough? Explain your answer.



- b) What is the area of the garden?

- 2) In the square garden pictured here you plan to plant vegetables in the circle and flowers in the shaded corners of the square.

- a) If you have 70-feet of fencing, what is the longest you can make each side of the square garden?



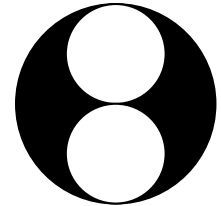
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b) Use your answer in Part (a) to find the area of the vegetable garden.

c) Use your answer in Part (a) to find the area reserved for flowers.

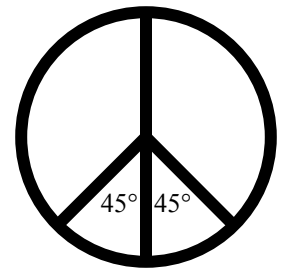
3) In the circular garden pictured here you plan to plant vegetables in two smaller circles and flowers in the shaded portion of the larger circle.

a) If the diameter of each of the smaller circles is 5.5 feet, will 70 feet of fencing be enough to put a fence around the flower area (inside and outside)? Show your work.



b) Which is bigger: the vegetable garden or the flower garden?

4) Paul has 200 cm of wire that he wants to bend into the shape of a peace symbol (see figure). The small angles are each 45° , and all the lines meet in the center of the circle. What is the diameter of the largest peace symbol that Paul can make? Explain your problem-solving process.



5) The figure shows a doghouse.

a) What is the area of the plywood needed to make the doghouse? Include the area of the door, even though that piece will be cut out and thrown away.

