

Circumference and Area of a Circle

Standards: Calculate areas of two dimensional figures.
Find dimensions (side length or perimeter) of a figure using its perimeter/circumference.
Compare areas of shapes with the same circumference/perimeter.

Task:

You are making a garden in your backyard. You want to put a fence around the garden to keep the rabbits out. The fence you use is 50 feet long.

To help you solve the problems draw the diagram of your garden for each situation and mark the dimensions of the garden

1) How many square feet can you fence in if you choose to put the fence in rectangle that is 15 by 10 feet.

2) How many square feet would be your garden if it was a square?

3) How many square feet would a circular garden include?

4) Compare the results attained in problems 1, 2 and 3. Which type of fencing would include the most area for the garden? Justify your answer.

	2	1	0
Find area of a rectangle	<i>The area of rectangle is found correctly in both problems</i>	<i>The area of rectangle is found correctly in one problem</i>	<i>The area of the rectangle is not correct</i>
Find dimensions of circle and square (x2)	<i>The dimensions are found correctly</i>		<i>The dimensions were not found correctly</i>
Find areas of square and circle	<i>Both areas are found correctly</i>	<i>One of the areas is found correctly</i>	<i>The areas are not found correctly</i>
Compare the areas of the shapes and explain the choice	<i>The maximum area is identified and logically explained</i>	<i>The maximum area is identified but not explained.</i>	<i>The results of the problems are not interpreted</i>