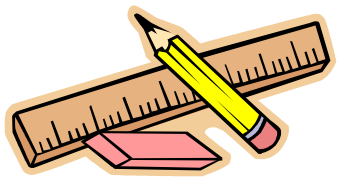
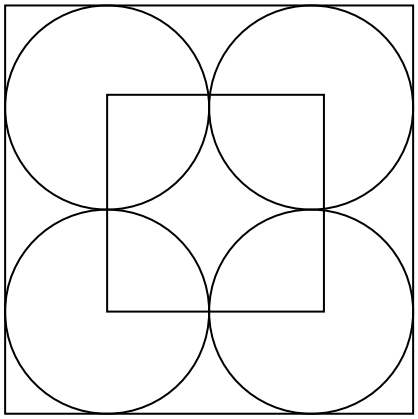


Name: _____
Date: _____
Score: _____

Many Measures

Read all parts of the open-response question before you begin. Write your answers to the open-response question on the answer page. For each open-response question, use the grid provided to create any required charts or graphs. If a question does not require a chart or graph, write your written response over the grid lines.



The area of the small square is four square units. The vertices of the small square are located at the center of each of the congruent circles.

a) Find the perimeter of the smaller square.

b) Find the area and circumference of the circles. Use 3.14 for π. Explain your reasoning and show your work.

c) Find the area and perimeter of the larger square. Explain your reasoning and show your work.

d) Find one more measure that may or may not be readily apparent. Explain your reasoning and show your work.

BE SURE TO LABEL YOUR RESPONSES (a), (b), (c) and (d).

_____

Many Measures

Scoring Guide

a) ½ point for the perimeter of the smaller square

b) ½ point for the area of the circle
½ point for correct work and explanation
½ point for the circumference of the circle
½ point for correct work and explanation

c) ½ point for the area of the larger square
½ point for correct work and explanation
½ point for the perimeter of the larger square
½ point for correct work and explanation

d) 1 point for another measure that is not readily apparent.
½ point for correct work and explanation

***A 4 cannot be earned if correct units are not included.**

You earned:	**Your score is:**
6 points	4*
4.0-5.5 points	3
2.5-3.5 points	2
0.5-2.0 points	1
0 points	1 -- your answers demonstrates minimal understanding **OR** 0 -- your answer is irrelevant

Many Measures

Grade Level: **7**

KY.7.G.4

Two-Dimensional Geometry: Circles, Irregular Polygons, Measurement
- Estimate and find circle measurements in standard units (radius, diameter, circumference, area) and relationships among them.
- Develop and use the formulas for area of a triangle, a parallelogram and a trapezoid and relate each to the formula for the area of a rectangle

Students will determine the area and perimeter of triangles, and quadrilaterals (rectangles, squares, trapezoids) (grade 6) and **the area and circumference of circles (grade 7).** Perimeters of polygons is mastered in grade 3 and revisited in grade 6.

DOK: **3**

KEY:

a) P= 16 units

b) Since the area of the square is 4 square units, I know that the side of the square is 2 units. Half of the square side length is the same as the radius of the circle so I can determine the radius of each circle is 1 unit. Therefore, the diameter of the circle is 2 units.

$A = \pi r^2$
$A=3.14(1^2)$
A= 3.14 square units

$C=\pi d$
C=3.14(2)
C=6.28 units

c) Since the diameter of each circle is 2 units, I know side length of the larger square is 4 units.

A=4(4)
A= 16 square units

P=4+4+4+4
P=16 units

d) Answers vary. The diagonal of the larger triangle is 5.66 units
Diagonal of smaller triangle is 2.83 units