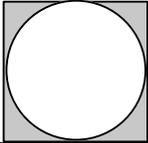


Mount Rainier Math Invitational
Sixth Grade - January 27, 2006
Team Geometry Test

written by Robert Cunningham

Put all answers on the colored answer sheet. All fraction answers must be reduced. You should leave appropriate answers in terms of π .

Problems 1 through 5 are worth 2 points each	
1	A square has a perimeter of 16. What is its area?
2	Trevor is installing a tile floor in his 12 foot by 4 foot kitchen. The tiles are 6 in. square and cost \$1.50 each. How much will Trevor have to pay to tile his floor?
3	The ratio, width to height, of all TV screens on planet Jeshika is 4 to 3. TV screen size is measured by the distance from top left corner to bottom right corner. Eric has a 10 inch TV and Andrew has a 20 inch TV. What is the ratio of Andrew's TV to Eric's in terms of screen area?
4	An ant sits at one corner of a sugar cube with side length 1 cm. If he walks along the edges and faces, what is the shortest length he walks to the farthest corner on the other side of the cube?
5	In the drawing below, a circle is inscribed inside a square with side length 8 in, what is the area of the shaded region? 
Problems 6 through 10 are worth 3 points each	
6	A person 4 feet tall casts a shadow 7.5 feet long. What is the length, in feet, from the tip of the person's head to the tip of the shadow's head?
7	A pentagon has two interior angles measuring 72 degrees and 33 degrees respectively. What is the average of the remaining interior angles, in degrees?
8	A triangle has two sides of length 9 feet and 3 feet. What is the difference between the longest and shortest possible integer lengths of the third side?
9	What is the volume of a rectangular prism with sides of length 5.5, 4, and 3.5?
10	After acting very strangely, Matt was sent to a home where he lives in a padded room with a base of 20 feet by 20 feet and a height of 12 feet. To keep him occupied, his doctors gave him paint and told him to paint every wall and the ceiling. One bucket of paint covers 100 square feet. How many whole buckets of paint did Matt need to complete the task?