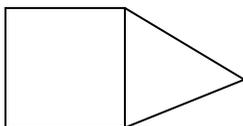


**Mount Rainier Math Invitational**  
**Sixth Grade - January 26, 2007**  
**"Who Wants to be a Mathematician"**  
 written by Catherine Tart

Put all answers on the colored answer sheet. Answers left blank will not be scored; any wrong answer will result in no further answer being scored. Be careful, check your work and don't guess!

<b>Problems 1 through 4 are worth 1 point each</b>	
1	Harry's favorite geometric shape has four sides. What is it? A) circle      B) triangle      C) trapezoid      D) pentagon
2	Mulan has been kidnapped by the Huns! She is stranded on the other side of the Great Wall of China. She climbs up 15 feet during the day and slides down 5 feet during the night. If the Great Wall is 50 feet tall, how many days will it take for her to get out? A) 4                  B) 6 C) 5                  D) 7
3	Harry is running away from #4 Privet Drive to #12 Grimmauld Place which is $x$ miles away, and it takes him 12 minutes to get there at a speed of 10 mph. How far away is #12 Grimmauld Place from #4 Privet Drive in miles? A) 1                  B) 2                  C) 3                  D) 4
4	What is $\left(\frac{6-5}{2}\right)^2 + 2$ ? A) $9/4$ B) 2                  C) $16/9$ D) $4/9$
<b>Problems 5 through 8 are worth 2 points each</b>	
5	Five hundred snakes are on a plane. If Samuel eliminates one snake every 5 minutes, how many snakes were left at the end of a 3-hour flight? A) 448              B) 450              C) 464              D) 472
6	Peter's bicycle wheel has a radius of $\frac{3}{\pi}$ meters. If it turns 150 times in 3 hours, what is its average speed in meters per hour? A) 200              B) 250              C) 300              D) 350
7	Aaron is swimming alone. When he swims, his entire body is under water. If the water level in the 6 yd by 4 yd pool is $1/2$ an inch higher when Aaron is swimming than when nobody is swimming, how many cubic feet are in Aaron's body? A) 5                  B) 6                  C) 9                  D) 10

8	Concrete is made of 4 parts rock to 1 part sand to 1 part water. If 144 gallons of concrete are used in a project, how many gallons of water were used to make the concrete? A) 20                      B) 21                      C) 23                      D) 24
<b>Problems 9 through 11 are worth 3 point each</b>	
9	Anna runs 20 miles north, 15 miles west, 14 miles south and finally 7 miles east. How many miles is she from her starting point? A) 9                      B) 10                      C) 11                      D) 12
10	What is the area of the following figure, formed by a square and an equilateral triangle with side length 4?  A) $16 + 4\sqrt{3}$ B) $16 + \sqrt{2}$ C) $16\sqrt{2}$ D) $16\sqrt{3}$
11	Bikes, trikes and cars are being sold. The number of bike wheels and trike wheels is 28. The number of trike wheels and car wheels is 40, and there are 50 total wheels. How many trikes are there? A) 5                      B) 3                      C) 12                      D) 6
<b>Problem 12 is worth 4 points</b>	
12	Matt is drinking pop so he can build a pyramid out of empty pop cans, one can on top, two in the next row, etc. If he drinks 360 mL total, how many rows are in his pyramid? Each can contains 10 mL A) 5                      B) 6                      C) 8                      D) 9