Liberian Math Olympics: Monrovia
July 7, 2017
Individual Round Part 2, Answer Sheet

Name: _____

School: _____

Instructions

Please read the following instructions carefully.

- **Write your name and school in the appropriate area of this sheet.**

- The test will be 30 minutes long and contains 10 problems.

- You will receive one point for each correct answer and zero points for each blank or incorrect answer.

- Only the answers written on the this answer sheet will be scored.

- Because there is no penalty for wrong answers, you should answer each question, even if you have to write a complete guess.

- On average, you have three minutes per problem. If you're stuck on one problem, you should move on to the next one and come back later if you have time.

- Remember to answer the specific question that is asked!

- Good luck!

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

For Grader Use Only

Score	Initials

1. What is the mean (average) of the first 9 positive integers (starting with 1)?

2. In a right triangle, if the hypotenuse has length 15 and one of the legs has length 9, what is the length of the other leg?

3. A turtle and a squirrel run a 12 mile race. They start at the same time. The turtle crawls at 1 mile per hour and the squirrel runs at 6 miles per hour. How far is the turtle from the finish line when the squirrel finishes? **Hint:** First figure out how long it takes for the squirrel to finish.

4. What is the lowest common multiple of 1, 2, 3, 4, 5, and 6?

5. A regular polygon has angles that all measure $120°$. How many sides does it have?

6. What is the area of a triangle whose vertices lie at the points $(0,0)$, $(4,0)$, and $(3,5)$ in the coordinate plane?

7. The distance from Ganta to Zwedru is 120 miles. If Mohammed drives from Ganta to the center (halfway point) at 30 miles per hour, and then drives from the center to Zwedru at 15 miles per hour, what is his average speed in miles per hour? **Hint:** First figure out how much time the entire trip takes.

8. There are 300 students in a school. 170 have taken physics. 190 have taken chemistry. 30 have taken neither physics nor chemistry. How many have taken both physics and chemistry?

9. You have a standard deck of cards (13 different types of cards, 4 of each type). If you pick out two cards at random, what is the probability that the two cards have the same type?

10. A cylindrical can has a radius of 5 inches and a height of 10 inches. What is its surface area?