

Liberian Math Olympics: Monrovia
July 7, 2017
Individual Round Part 1, 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

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1. Compute $1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 - 8 - 7 - 6 - 5 - 4 - 3 - 2 - 1$.
2. What is the largest 4-digit number such that all 4 digits are distinct and no 2 consecutive digits can be next to each other? For example, 1357 is OK, but 2315 and 1477 are not.
3. What is the product of all of the whole numbers from 0 through 9?
4. $\sqrt{41}$ lies between two consecutive integers. Find the *sum* of these two integers.
5. How many factors of 75 are divisible by 5?
6. Isaac flips a fair coin 5 times. What is the probability that he gets more heads than tails?
7. Equilateral triangle ABC has an area of 4. Equilateral triangle DEF is constructed by connecting the midpoints of AB , BC , and AC . What is the area of triangle DEF ?
8. Ariana is thinking of a real number x that is $1/9$ of its cube. What are the three possibilities for the number x ?
9. William's scores on his first four math exams are 75, 81, 86, and 93. If he gets a perfect score on his next exam, what will be his median score on all 5 exams?
10. A frog has fallen into a pit 20 feet deep. Every day, it jumps up 3 feet, but at night it slides down 2 feet. How many days does it take for the frog to jump out of the pit? Be careful!