



RAMC 2023

Elementary I Tiebreaker Round

- **SCORING:** The questions in this round are used to break ties, and are not necessarily weighted the same.
- This round contains 10 questions to be solved in 30 minutes. All answers are integers.
- No computational aids are permitted other than scratch paper, graph paper, and a pen/pencil. No calculators of any kind are allowed.
- Fill out your information, and sign/initial the honor code on the answer sheet provided.
- If you believe there is an error on the test, submit a challenge to the proctors. Please include your name, level (Elem I/II, MS, HS), and explanation of the problem and your solution.

Do not flip the page until the proctor begins the round!

1. Jackson has \$44.00 to spend at a store. A can of Summit Sip costs \$2.50, and a bottle of water costs \$1.50. If Jackson wants to buy as many cans of Summit Sip as possible before using the remaining money to buy bottles of water, how many drinks can Jackson buy?
2. If $\frac{4}{7} = \frac{x}{84} = \frac{28}{y}$, what is $x + y$?
3. A red car can travel 40 miles in 90 minutes and a blue car can travel 50 miles in 120 minutes. How many more miles will the red car travel than the blue car over the course of 3 hours?
4. Ana has three boxes of unknown but equal weight. When she weighs the boxes on a scale, she finds that the three boxes and a 15-pound weight weighs the same as one box and a 45-pound weight. How many pounds does one box weigh?
5. It takes James 6 hours to paint a fence, and Jack 3 hours to paint the same fence. How many hours will it take if both paint the same fence at the same time?
6. In Frank's science class, 10 students have read the textbook, 15 have done the homework, and 5 have done neither. If there are 25 students in Frank's class, how many have both read the textbook and did the homework?
7. I have C chickens and R rabbits in a cage. All of my chickens have 2 legs and all of my rabbits have 4 legs. I count 14 animals and a total of 44 legs in the cage. What is the positive difference between C and R ?
8. Cathy has drawn an equilateral triangle with side length 3, a square with side length 4, and a rhombus with side length 5. What is the perimeter of these three shapes added together?
9. A snail in a tropical rainforest wants to climb to the top of a tree. The tree is 112 meters tall, and the snail can climb 8 meters every day. However, the snail sleeps at night, slipping down 4 meters. After how many days will the snail reach the top of the tree?
10. A square and a rectangle have a combined perimeter of 58 inches and a combined area of 108 square inches. If the square has a side length of 6 inches, what is the length of the smaller side of the rectangle?