EMCC 2026

Accuracy Test

January 18, 2026

Do not open the booklet until you are instructed to do so.

This is the Accuracy Round of the EMCC. There are 10 problems, worth 2 points each, to be solved in 45 minutes. There is no penalty for guessing. As with all other rounds, calculators, graph paper, lined paper, rulers, protractors and compasses are prohibited.

The answer to a problem may not necessarily be an integer. See the provided *Acceptable Forms of Answers* sheet for a breakdown of correct and incorrect ways to express an answer.

The opposite side of this page contains the answer form. Once you are instructed to begin the test, tear this page off of the booklet. At the conclusion of the Accuracy Round, only this page will be collected. Anything written elsewhere on the booklet will not be read or scored.

Best of luck!

Name: _____ **Team:** _____

ID #: ___ ___ ___ - ___ ___

Accuracy Test Answer Form

Tear this page off the rest of the booklet; this is the only sheet of paper that will be collected. Make sure that all identifying information has been filled in on the other side of this page.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Accuracy Test

January 18, 2026

There are 10 problems, worth 2 points each, to be solved in 45 minutes. Answers must be simplified and exact unless otherwise specified. There is no penalty for guessing.

1. At a clothing store, sweaters usually cost \$56.22 more than jeans. With a 40% discount, sweaters now cost \$56.22. How many jeans are equal to the price of 30 discounted sweaters?

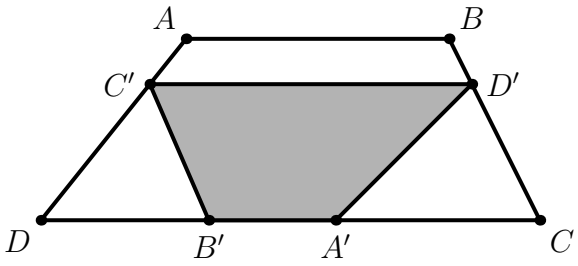
2. Sabrina rolls a fair six-sided die three times. If the product of the the three numbers obtained has fifteen divisors, what is the sum of the three numbers?

3. A right triangle $\mathcal{T}$ has side lengths a, b and c. If $abc = 260$ and $a^2 + b^2 + c^2 = 200$, what is the area of $\mathcal{T}$?

4. Suppose A, B, C and D are (not necessarily distinct) digits such that the two-digit numbers $\underline{AB}$, $\underline{BC}$ and $\underline{CD}$ are consecutive (in that order). What is the four digit number $\underline{ABCD}$?

5. Michael has a 9×9 square of chocolate. Every minute, he takes a rectangle of chocolate and splits it along a vertical or horizontal line into two pieces of chocolate, each with integer side lengths. When Michael is unable to split any more pieces of chocolate, he stops. What is the average length of the cuts that Michael makes?

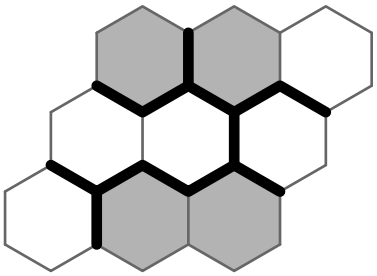
6. Let $ABCD$ be a trapezoid with $\overline{AB} \parallel \overline{CD}$. A trapezoid $A'B'C'D'$ similar to $ABCD$ is inscribed inside, as shown below. Given that $AB = 6$, $BD' = 1$ and $D'C = 3$, what is CA'?



7. In the hexagonal grid below, some edges are bolded, dividing the grid into six regions. Each of the nine cells is to be filled with a distinct single digit integer, such that

   - no consecutive numbers share a **bolded** edge;
   - the one or two digit number formed by each region is a prime number.

   What is the product of the digits in the four shaded cells?



8. Let $A_1A_2 \ldots A_9$ be a regular 9-sided polygon. Two points X and Y are randomly selected inside the polygon. What is the probability that segments A_1X and A_2Y intersect?

9. If a, b, c and d are positive integers such that $\gcd(a!+b!, c!+d!) = 1320$, what is $a \times b \times c \times d$?

10. Let a, b and c be positive real numbers and let $P(x) = x^3 - ax^2 + bx - c$ be a polynomial with real roots $\frac{1}{3}$, r and s. If $c^2 = aP(\frac{a}{2})$, what is the maximum possible value of $r^2 - s^2$?