53th Lee Webb Math Field Day

California State University, Bakersfield
Department of Mathematics

March 7, 2026

Round 1

Junior Varsity Math Bowl Round 1 Sample Question

Simplify

$$|3 - |5 - 11||$$

Junior Varsity Math Bowl Round 1 Question 1

A two-digit number sum of two digits is 5. Reversing the digits makes the number 27 larger. What is the original number?

Junior Varsity Math Bowl Round 1 Question 2

What is the next year after 2026 whose digits sum to a prime number?

Junior Varsity Math Bowl Round 1 Question 3

Evaluate

$$999 \cdot 1001 - 998 \cdot 1002$$

Junior Varsity Math Bowl Round 1 Question 4

The angles of a triangle are in the ratio $2 : 3 : 4$. What is the largest angle?

Junior Varsity Math Bowl Round 1 Question 5

After shuffling, two cards drawn one after the other without replacement, what is the probability that both cards are red? Leave your answer as a fraction.

Junior Varsity Math Bowl Round 1 Question 6

Two numbers are 14 apart. How far is the smaller number from their average?

Junior Varsity Math Bowl Round 1 Question 7

What is the largest whole number less than 5000 that is a power of 3?

Junior Varsity Math Bowl Round 1 Question 8

Suppose $f(x)$ is a function that satisfies the functional equation

$$f(4x + 8) = 5x - 2$$

Evaluate $f(2026)$.

Round 2

Junior Varsity Math Bowl Round 2 Sample Question

What is the smallest positive integer n such that $2^{-n} < \frac{1}{500}$?

Junior Varsity Math Bowl Round 2 Question 1

What is the 2026th term of the sequence that starts

$$4, 1, 3, 2, 4, 1, 3, 2, \ldots$$

and continues with this pattern?

Junior Varsity Math Bowl Round 2 Question 2

A class of 12 students had an average score of 75. Later, one student's missing page was graded and raised that student's score from 40 to 85. What is the new class average?

Junior Varsity Math Bowl Round 2 Question 3

A rectangle becomes a square when the longer side is decreased by 5 units. The area of the new square is half the area of the original rectangle. What is the area of the original rectangle?

Junior Varsity Math Bowl Round 2 Question 4

Solve the inequality:

$$|x - 3| + |x + 5| \leq 14$$

How many integers satisfy it?

Junior Varsity Math Bowl Round 2 Question 5

In a survey, 52% of students like basketball, 41% like soccer, and 18% like both. What percent like exactly one of the two sports?

Junior Varsity Math Bowl Round 2 Question 6

Two fair dice are rolled. Given that the sum is even, what is the probability the sum is 8? Leave your answer as a fraction.

Junior Varsity Math Bowl Round 2 Question 7

Two cards drawn without replacement, what is the probability that exactly one is spade? Leave your answer as a fraction.

Junior Varsity Math Bowl Round 2 Question 8

Solve the system of equations:

$$2x + 3y = 19 \quad (1)$$
$$5x - 2y = 8 \quad (2)$$

Then determine the value of $x + y$.

Round 3

Junior Varsity Math Bowl Round 3 Sample Question

What is half of a third of a fourth of 48?

Junior Varsity Math Bowl Round 3 Question 1

Two standard dice are rolled. What is the probability that the sum is greater than 9? Leave your answer as a fraction.

Junior Varsity Math Bowl Round 3 Question 2

What is the unit digit of 9^{101}?

Junior Varsity Math Bowl Round 3 Question 3

What is the area of a regular hexagon inscribed in a circle of radius r?

Junior Varsity Math Bowl Round 3 Question 4

Find all the integers that satisfies the equation

$$|x^2 - 9| + |x^2 - 16| = 7$$

Junior Varsity Math Bowl Round 3 Question 5

Compute

$$\frac{2026!}{2025!} + \frac{2025!}{2024!} + \frac{2024!}{2023!}$$

Junior Varsity Math Bowl Round 3 Question 6

A committee of 4 is chosen from 10 students, and then a captain is chosen from that committee. How many outcomes are possible?

Junior Varsity Math Bowl Round 3 Question 7

A bag has red and blue chips. The probability of red is $\frac{3}{5}$. Given that 10 red chips are added, the probability of red becomes $\frac{2}{3}$. How many chips were originally in the bag?

Junior Varsity Math Bowl Round 3 Question 8

How many different combinations of quarters and dimes total exactly 10 dollars?

Round 4

Junior Varsity Math Bowl Round 4 Sample Question

Suppose $4^{2z+1} = 1024$. What is 4^z?

Junior Varsity Math Bowl Round 4 Question 1

A jar has 4 red, 3 green, 2 blue marbles. Two marbles are drawn without replacement. What is the probability they are different colors? Leave your answer as a fraction.

Junior Varsity Math Bowl Round 4 Question 2

If $2^{x-y} = 16$ and $2^x = 8^{y+1}$, find x.

Junior Varsity Math Bowl Round 4 Question 3

What is the sum of all the two-digit multiples of 8?

Junior Varsity Math Bowl Round 4 Question 4

A rectangular box has face areas 24, 30, and 40. What is the volume of the box?

Junior Varsity Math Bowl Round 4 Question 5

How many solutions in nonnegative integers (a, b) satisfy $25a + 10b = 500$?

Junior Varsity Math Bowl Round 4 Question 6

In triangle ABC, the exterior angle at A is 108° and angle B is 41°. Find angle C.

Junior Varsity Math Bowl Round 4 Question 7

A standard deck is shuffled. Two cards are drawn without replacement. What is the probability that at least one is an ace? Leave your answer as a fraction.

Junior Varsity Math Bowl Round 4 Question 8

Three test scores have mean 84, median 86, and range 18. List the three scores in increasing order.

See you this afternoon
Varsity Math Bowl
2:15