



University
of Vermont

College of Engineering and
Mathematical Sciences
Mathematics and Statistics

SIXTY-NINTH ANNUAL HIGH SCHOOL PRIZE EXAMINATION
TUESDAY, MARCH 10, 2026

THIS EXAMINATION IS TO BE ADMINISTERED DURING SCHOOL HOURS ON MARCH 10, 2026. AN EXAMINATION GIVEN AT ANY OTHER TIME WILL BE DISQUALIFIED.

THE TIME LIMIT ON THIS EXAMINATION IS 2 HOURS.

INSTRUCTIONS TO THE CONTESTANTS:

Do not begin the examination until the examiner tells you to do so.

The answer sheet is on the reverse side of this page. Before beginning the examination, carefully print your full name, your address, the complete name of your school and the town/city in which your school is located on the appropriate lines of the answer sheet. Check the circle corresponding to your grade level in school.

Answers must be written on the answer sheet in pencil or ink. You may work on problems in any order, but be sure that each answer is entered in the proper space on the answer sheet. (For example, if you solve number 12 first, make sure the answer is placed beside the 12 on the answer sheet.) All questions are weighted equally. Answer as many questions as you can in the allotted time. No contestant is expected to solve all of the problems.

CALCULATORS, COMPUTERS AND/OR ANY OTHER ELECTRONIC DEVICES ARE NOT PERMITTED.

UNLESS OTHERWISE INDICATED, ALL ANSWERS MUST BE EXPRESSED IN SIMPLEST FORM.

A radical expression of index n is in simplest form if the radicand is not a fraction, denominators are rationalized and integer radicands do not have any factors that are n th powers of a prime. For example, $\sqrt{\frac{5}{12}}$ simplifies to $\frac{\sqrt{15}}{6}$.

Do NOT approximate the number π .

Do NOT approximate radicals.

The notation **log** is logarithm to the base 10.

The notation **log_a** is logarithm to the base a . The notation **ln** is logarithm to the base e .

The symbol **!** is the factorial symbol. For example, $3! = 3 \cdot 2 \cdot 1 = 6$.

The symbol ***i*** is the complex unit $\sqrt{-1}$.

All numbers are in base 10 unless otherwise indicated (e.g., 1001_2 is the base 2 representation of the decimal number 9).

Any answer that is a non-integer rational number must be expressed in the form $\frac{a}{b}$, where a and b are integers that have no common divisor other than 1.

ANSWER SHEET (2026)

PLEASE PRINT CLEARLY

STUDENT'S FULL NAME Answers

STUDENT'S ADDRESS _____

NAME OF SCHOOL _____

TOWN (OR CITY) OF SCHOOL _____

WHAT GRADE ARE YOU IN? 9th 10th 11th 12th Other _____

1. 5 / 9

2. -4

3. 36π cubic units

4. 9:00 p.m.

5. 24 outfits

6. 18

7. 4√5 inches

8. 6 cupcakes

9. m + n = -13

10. x = -1 / 12

11. 29 chocolate bars

12. 145 degrees

13. 30

14. 2

15. 37√3 / 2 square inches

16. 200 degrees

17. 318

18. 7 integers

19. 27 square units

20. x = 14^{1/7} or √[7]{14}

21. 2 : 7 or 2 / 7

22. 2 / 5

23. n = 4410

24. x = 1 / 81

25. √41 - 3 units

26. 4 / 9

27. 1 + √2 units

28. -32,000

29. 505 trailing zeroes

30. m = 15 / 2

31. (28, 21)

32. c = 243 gallons

33. -44 / 125

34. x = -1, 6

35. -35

36. 4√(9 + 4π²) units

37. 36 paths

38. √6 / 3

39. 572 ways

40. √10

41. √5 square units