

Section 211 Calculator Applications | 2011-2012

All rules in Section 209 apply to this contest.

A. NATURE OF THE CONTEST.

Test Questions. The 30 minute contest shall include calculations involving addition, subtraction, multiplication, division, roots, powers, exponentiation, logarithms, trigonometric functions, and inverse trigonometric functions. In addition to straightforward calculation problems, the contest shall include geometric and stated problems similar to that found in high school algebra, geometry, and trigonometry textbooks.

B. USE OF CALCULATORS.

Student May Use Calculators. Contestants will be allowed to use any commercial silent hand-held calculator that does not require auxiliary electric power and as long as they are not modified. (**Exclude use of TI89, TI92, and like model calculators**). Each student may bring one spare calculator. Small, hand-held computers are not permitted. **Clearing the memory will be required.**

C. CONDUCTING THE CONTEST.

1. Reading the Contest Instructions. The contest director will read the following directions exactly as they are printed:
 - a. ***No Cell Phones or other electronic devices other than calculators allowed in testing room.***
 - b. **Put your name, school, and school classification in the directed place on your test and answer sheet. Failure to put your name and school will result in disqualification. (Allow time for this to be done).**
 - c. **Keep your papers closed until told to do otherwise; this is particularly important while test papers are being distributed and before the signal to begin has been given.**
 - d. **During the test, no questions may be asked or answered. The contestant talking or making distracting noises may be disqualified.**
 - e. **Leaving the room with any contest materials will result in disqualification.**
 - f. **Transferring information concerning this test to other contestants or coaches is a violation of the Academic Meet Code and subject to penalties up to and including disqualification.**
 - g. **You will be allowed the use of calculators on this test.**
 - h. **You may write on the test paper, but only the answer should be written in the answer space. You may erase or mark out a previously written answer, provided you write the revised answer within the answer space and clearly indicate the answer you wish to have graded. Answers may**

be written in decimal or in powers of 10 notation of the form, 1.23×10^{-6} . Except in integer, dollar sign, and certain stated problems, answers should be written with three significant digits only, with plus or minus one unit error in the third significant digit permitted. Integer problems require answers written as an integer and no error is permitted. Dollar sign problems should be answered to the exact cent, but plus or minus one cent error is permitted. Stated problems using inexact numbers require use of the method of least significant digits. Problems requiring the method of least significant digits are indicated by “sd” in the answer blank. Plus or minus one unit error in the last significant digit is permitted. Starred stated problems require +10% or -10% accuracy. Answers should be given in the units specified and with the correct sign. The test cover sheet illustrates how answers should be written.

- i. You have 30 minutes for this test. No oral time warnings shall be given. You are required to turn off any audible signals on any timing devices during the contest.
 - j. All problems through the last problem completed or attempted will be graded. A problem is considered to have been attempted if any mark or erasure appears in the answer space for that problem. Scoring is plus five points for correct answers and minus two points for incorrect, skipped, or illegible answers. Stated problems involving inexact numbers that are answered correctly but with the incorrect number of significant digits are awarded plus three points, provided at least two significant digits are indicated and the more precise answer rounds exactly to the lesser precise answer.
 - k. When the end of the contest period is indicated, you must cease calculator operations. After the signal to stop is given you may, however, write down one number displayed on your calculator.
 - l. You may do calculations on your test paper as long as it is not in the designated answer space.
 - m. You may use any silent, hand-held calculator that does not require auxiliary electric power.
 - n. If you finish the test before the end of the allotted time, you may leave the room quietly. No talking or distracting noises may be made. Turn in all your testing materials as you leave.
2. *Stop and Start Signals.* Exactly 30 minutes after the start signal was given, announce that time has expired and that contestants must turn in their test. If contestants are in the process of writing down an answer, they may write down one number displayed on their calculator; they may not do additional calculations on their calculator or test.

3. *Scoring.* Each contestant shall be awarded five points for each question answered correctly; two points will be subtracted for each question answered incorrectly, skipped, or incorrect number of significant digits. No points shall be deducted for unanswered questions after the last attempted problem.
4. *Ties.* In the event of a tie, the higher place shall be given to the contestant gaining the most points on stated and geometric problems. Contestants will be awarded five points for each correct answer, three points for significant digit problems with incorrect number of significant digits and no points for wrong answers. If the same number of points is gained on stated and geometric problems, than a tie exists. For all classifications, this tie breaking process will be used for 1st through 8th places. Should there be a tie for first place, there is no second place. Should there be a tie for second place, there is no third and so on.