



NATIONAL SOCIETY OF BLACK ENGINEERS

 Think Green! Please do not print unless absolutely necessary

2014-2015 MATHCOUNTS® Rule Book

LAST UPDATED

August 2014

INTRODUCTION TO NSBE

NSBE

The National Society of Black Engineers (NSBE) was founded in 1975 by six black engineering students at Purdue University nicknamed the Chicago 6. The original aspiration was to establish a student organization to help improve the recruitment and retention of black engineering students. NSBE is now the largest student-managed organization in the United States with more than 25,000 members.

NSBE is comprised of more than 300 chapters on college and university campuses, 75 professional chapters nationwide and 298 NSBE Jr. chapters. These chapters are geographically divided into six regions. The NSBE mission is to increase the number of culturally responsible Black engineers who excel academically, succeed professionally and positively impact the community. For more information on NSBE, please visit www.nsbe.org.

In fulfillment of the NSBE objective to “stimulate and develop student interest in the various engineering disciplines”, the various programs and competitions were created for pre-college students.

PCI

The Pre-College Initiative (PCI) Program is the focus of the NSBE effort to promote college, academics, technology, and leadership to pre-college students. Our primary focus is to encourage students in grades 6-12 to develop interest in Science, Technology, Engineering and Mathematics (STEM).

The mission of PCI is to lead the world in enhancing the pre-college students' academic, technical, and leadership skills in order to maximize their success in life. The vision is to establish PCI as an incubator for our youth, where they can be nurtured and guided in their academic careers.

NSBE Chapters support PCI through multiple programs.

NSBE Jr.

A vital component of the PCI program is NSBE Jr., which serves as the membership category for pre-college students and institutions that are officially chartered with NSBE. NSBE Jr. members and chapters are at the core of PCI, as they are the primary focus and beneficiaries of PCI programs.

NSBE Jr. focuses on enhancing the education received by African-American and other minority pre-college students, as well as influencing these students to become tomorrow's corporate executives, entrepreneurs, and leaders. In this spirit, NSBE Jr. is the quintessential recruitment, teaching, and preparation device for the NSBE.

National Society of Black Engineers
Pre-College Initiative presents

2014-2015 MATHCOUNTS Competition

The **MATHCOUNTS Competition** is a fun and challenging math program designed for U.S. middle school students to increase their academic and professional opportunities. There will be a circuit of exams given to students at their respective 2014 Fall Regional Conferences in October/November 2014.

Competition Registration

Registration will close at **11:59pm EST on September 12, 2014.**

NO EXCEPTIONS WILL BE MADE ONCE REGISTRATION IS CLOSED.

REGISTRATION

- **Team Registration:** Each team will consist of exactly **FOUR** NSBE Jr members (no more no less).
 - Teams will participate in the Sprint, Target and Team Rounds.
- The team's advisor must register its members in Eventbrite.

MATHCOUNTS COMPETITION COMPONENTS

MATHCOUNTS competitions are designed to be completed in approximately three hours:

The **SPRINT ROUND** (40 minutes) consists of 30 problems. This round tests accuracy, with the time period allowing only the most capable students to complete all of the problems.

Calculators are not permitted.

The **TARGET ROUND** (approximately 30 minutes) consists of 8 problems presented to competitors in four pairs (6 minutes per pair). This round features multistep problems that engage Mathletes in mathematical reasoning and problem-solving processes. **Problems assume the use of calculators.**

The **TEAM ROUND** (20 minutes) consists of 10 problems that team members work together to solve. Team member interaction is permitted and encouraged. **Problems assume the use of calculators.** *Note:* Coordinators may opt to allow those competing as individuals to create a "squad" to take the Team Round for the experience, but the round *should not be scored and is not considered official.*

COMPETITION RULES

All answers must be legible.

Pencils and paper will be provided for Mathletes by competition organizers. However, students may bring their own pencils, pens and erasers if they wish. They may not use their own scratch paper or graph paper.

Use of notes or other reference materials (including dictionaries and translation dictionaries) is not permitted.

Specific instructions stated in a given problem take precedence over any general rule or procedure.

Communication with coaches is prohibited during rounds but is permitted during breaks. All communication between guests and Mathletes is prohibited during competition rounds. Communication between teammates is permitted only during the Team Round.

Calculators are not permitted in the Sprint Round, but they are permitted in the Target, Team and Tiebreaker (if needed) Rounds. When calculators are permitted, students may use any calculator (including programmable and graphing calculators) that does not contain a QWERTY (typewriter-like) keypad. Calculators that have the ability to enter letters of the alphabet but do not have a keypad in a standard typewriter arrangement are acceptable. Smart phones, laptops, iPads®, iPods®, personal digital assistants (PDAs), and any other “smart” devices are not considered to be calculators and may not be used during competitions. Students may not use calculators to exchange information with another person or device during the competition.

Coaches are responsible for ensuring that their students use acceptable calculators, and students are responsible for providing their own calculators. Coordinators are not responsible for providing Mathletes with calculators or batteries before or during MATHCOUNTS competitions. Coaches are strongly advised to bring backup calculators and spare batteries to the competition for their team members in case of a malfunctioning calculator or weak or dead batteries. Neither the MATHCOUNTS Foundation nor coordinators shall be responsible for the consequences of a calculator’s malfunctioning.

Pagers, cell phones, iPods® and other MP3 players should not be brought into the competition room. Failure to comply could result in dismissal from the competition.

Should there be a rule violation or suspicion of irregularities, the MATHCOUNTS coordinator or competition official has the obligation and authority to exercise his or her judgment regarding the situation and take appropriate action, which might include disqualification of the suspected student(s) from the competition.

SCORING

Competition scores do not conform to traditional grading scales. **Coaches and students should view an individual written competition score of 23 (out of a possible 46) as highly commendable.**

The individual score is the sum of the number of Sprint Round questions answered correctly and twice the number of Target Round questions answered correctly. There are 30 questions in the Sprint Round and 8 questions in the Target Round, so the maximum possible individual score is $30 + 2(8) = 46$.

The team score is calculated by dividing the sum of the team members' individual scores by 4 (even if the team has fewer than four members) and adding twice the number of Team Round questions answered correctly. The highest possible individual score is 46. Four students may compete on a team, and there are 10 questions in the Team Round. Therefore, the maximum possible team score is $((46 + 46 + 46 + 46) \div 4) + 2(10) = 66$.

Ties will be broken as necessary to determine team and individual prizes. For ties between individuals, the student with the higher Sprint Round score will receive the higher rank. If a tie remains after this comparison, specific groups of questions from the Sprint and Target Rounds are compared. For ties between teams, the team with the higher Team Round score, and then the higher sum of the team members' Sprint Round scores, receives the higher rank. If a tie remains after these comparisons, specific questions from the Team Round will be compared. *Note:* These are very general guidelines. Competition officials receive more detailed procedures.

In general, questions in the Sprint, Target and Team Rounds increase in difficulty so that the most difficult questions occur near the end of each round. In a comparison of questions to break ties, generally those who correctly answer the more difficult questions receive the higher rank.

Protests concerning the correctness of an answer on the written portion of the competition must be registered with the room supervisor in writing by a coach within 30 minutes of the end of each round. Rulings on protests are final and may not be appealed.

NOTES

All questions should be directed to pci@nsbe.org.

Due to the nature of our programming and the partnerships involved, this rulebook is subject to change at any time. Changes may include but are not limited to rules, implementation, awards criteria/categories and procurements on behalf of the participants. NSBE will remain to be diligent in providing necessary information for our programming and limit any inconveniences that may occur.