Westmont Mathematics Field Day

February 8, 2025

Rules

1 College Bowl

The "College Bowl" consists of preliminary and final rounds. Teams from various schools compete against one another in several preliminaries. The two schools with the highest combined scores then advance to the final round to determine the overall winner. Modeled after the College Bowl TV show, competitors work individually in an attempt to be the first to answer a series of short questions. After each such question, the team of the competitors who answered correctly gets dibs at solving a more difficult follow-up problem. The other team simultaneously works on the same problem, and will be given a chance to answer if the original team provides an incorrect solution.

1.1 Rules

No calculators are permitted. The round will begin with a "toss-up question" from the emcee. Competitors will only have 45 seconds to answer this question, but should press the buzzer control as soon as they know the answer. The first person doing so will win one point for their team if the answer is correct. If a competitor presses the buzzer control while the question is being read, the emcee will stop and the competitor must answer based on what has been said so far. If an answer is incorrect, the opposite team will be given whatever time remains of the original 45 seconds to come up with a correct answer. No consultation with teammates is allowed for this question. If one team has "claim" to a toss-up question and the buzzer sounds, then the emcee will ask this team if they have an answer, after which they must respond immediately. If no team has claim to the question and no one buzzes in before the timer runs out, then neither team will be allowed to answer.

The first team to answer the toss-up question correctly will be given two minutes to work on a "follow-up" question. For this part, competitors are allowed and encouraged to work as a team. A correct answer to the follow-up question will earn two points. If an incorrect answer is given, the opposite team will be given a chance to answer. They will have whatever time is remaining of the original two minutes to come up with an answer. If one team has "claim" to a question and the buzzer sounds, then the emcee will ask this team if they have an answer, after which they must respond immediately. If the team answers incorrectly, the other team will then also be given a chance to answer, provided they have not already answered (under any scenario, each team may answer a maximum of one time). If no team has claim to the question and no one buzzes in before the timer runs out, then neither team will be allowed to answer.

After the follow-up question is over, a new toss-up question is asked and the pattern will repeat.

- If no team answers the toss-up question correctly, both teams will be permitted to answer the follow-up question. The first team to buzz in and solve the question correctly will be given two points.
- Competitors are advised to be sure they know the answer before they press the buzzer control. After a competitor has buzzed in, a five-second timer will begin. The competitor must begin their answer before the timer buzzes, otherwise their team will lose their chance to respond (i.e., their response will be treated as an incorrect answer).

- In order to guard against domination of this contest by any one competitor, any competitor who correctly answers a toss-up question will not be allowed to answer the next toss-up question. If a competitor who correctly answers a toss up questions buzzes or says an answer for the next toss up question, their team will lose the opportunity to answer the question (i.e., their response will be treated as an incorrect answer).
- Note that for both the toss-up and follow-up questions that each team may attempt an answer a maximum of one time.
- The timers for each question will begin immediately upon the question being projected.

1.2 Answer Formatting

- Denominators should be rationalized.
- Square roots should be fully simplified.
- Fractions should be fully reduced, although either improper fractions or mixed numbers are acceptable.
- Exponents should be positive.
- Answers should be exact, not rounded, unless rounding is asked for specifically.
- Units are **not** required unless they are asked for specifically.
- Decimal, fraction, or percent forms are all valid unless one form is asked for specifically.

An answer which is not in the required format will be considered incorrect.

1.3 Progression to Finals

The two schools with the highest combined scores from the preliminary rounds (this will be determined by the average score for the preliminary rounds if teams play an unequal number of rounds) will advance to the final round to determine the overall winner. If there is a tie between three teams, then the two teams with the highest scoring preliminary round will progress to the finals. If this does not resolve the tie, then the two teams with the second highest scoring preliminary round will progress to the finals. If progressing in this manner through all of the preliminary rounds does not resolve the tie, then a random draw will decide which two teams progress to the final rounds.

Note that if a school has entered two teams in a single grade range that only one of these two teams may progress to the final rounds.

2 Written Exam

This is a team exam with five questions. Teams will be graded both on the accuracy of their answers and the the clarity with which they express their answers. Teams are encouraged to work each problem out on scratch paper at first, then copy the solution they want graded to the space provided below the corresponding question. Writing should be legible and coherent. Teams should justify their answers completely rather than merely stating what the answer is. The back of the paper may be used if more space is needed. When time is up, teams should assemble their answers in order and give them to the exam proctor.

If a team finishes early they may turn in theirs answers and watch their classmates from the other grades compete in the College Bowl!

2.1 Rules

- Collaboration between team members is allowed (and encouraged!).
- Answers will be graded for both accuracy and clarity.
- Turn in only one solution per problem per team.
- Calculators are not permitted.

2.2 Tie Breaker Policy

If two teams receive the same score on the written exam, the winner will be determined by the highest individual scoring problem. If these values are the same, the winner will be determined by the second highest individual scoring problem. If needed, this process will continue through all five problems. If both teams score identically on each problem, the winner will be determined by the team with the clearest and highest quality solutions.

3 Chalk Talk

One competitor from each 11-12th grade team will give a 10-12 minute mathematics talk within the indicated topic/theme. A successful chalk talk is well-organized, sufficient in depth, and focused. Teams may collaborate in the creation of the talk, but only one competitor from the team may deliver the talk. Competitors should be penalized for giving talks that they themselves don't completely understand. In other words, it is important that the person speaking have a good grasp of the subject. A flashy Power Point presentation without good understanding does not make for a winning formula.

- If scheduling permits, a 9-10th grader may give the chalk talk. In this case, the Chalk Talker score will not count toward the overall team score, although the 9-10th grader competitor may progress to finals and win the event as an individual.
- Schools with multiple teams are permitted to have a presenter for each team. However, only one presenter per school is permitted to progress to the final rounds.

3.1 Scoring

Competitors will be evaluated in each category below with a score between "1" to "10," where "10" is the best. The first three categories deal with the style of the talk, while the last three deal with the content.
CATEGORIES: (Rank Each on a Scale from 1 to 10 with 10 being best)

_____ 1. Clarity of presentation

_____ 2. Use of visual aids

_____ 3. Delivery (including time)

_____ 4. Focus of topic

_____ 5. Depth of topic

_____ 6. Grasp of / correctness of mathematics

3.2 Progression to Finals

The two highest scoring competitors from the preliminary rounds will progress to the finals rounds to give their presentation to a larger audience. At the judges' discretion, it is possible that three competitors may progress to the final rounds.