

UIL Mathematics Contest

Practice and Test Taking Tips For Coaches

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<http://www.uil texas.org/academics/stem/mathematics>

UIL Mathematics Contest Information

1. The math test is curriculum driven and covers various math topics including:

Basic mathematics

Algebra 1

Geometry

Algebra 2

Trigonometry

Analysis

Basic Calculus

Probability

Misc. (my favorite section)

2. Scratch paper and calculators are permitted. Calculators can be used on the test provided they meet the requirements found in the UIL Constitution and Rules manual.

Approved Calculators

Contestants will be allowed the use of any commercially available silent hand-held calculators that do NOT require auxiliary electric power and as long as they are NOT modified. Each student may bring one spare calculator. Small, hand-held computers are NOT permitted. Memory should NOT be cleared.

3. The Math test is a 40 minute multiple choice test composed of 60 questions.

4. Scoring is plus 6 points for each correct answer and minus 2 points for each wrong answer. Skipped problems are not counted.

5. Students can write anywhere on the test except on the answer sheet. All answers must be in the appropriate blank on the answer sheet. Be sure to use capitol letters and erase fully.

6. Problems on the test are not in order from easiest to hardest. Different topics and difficulty levels are scattered throughout the test.

Resources for Help

Books

No Sense in Mathematics – by Don Skow (dps1221@hotmail.com)

RAM Materials – by Leo Ramirez (www.rammaterials.com)

Websites

UIL - www.uil.utexas.edu

TMSCA - www.tmsca.org

Math Forum - www.mathforum.org

Virtual Challenge Meet - www.virtualchallengemeets.com

Practice Tests

University Interscholastic League (UIL) - www.uil.utexas.edu/

Texas Math and Science Coaches Association (TMSCA) - www.tmsca.org

RAM Materials by Leo Ramirez - www.rammaterials.com

AMT Test Writing Service by Andy Zapata --- (**adzapata74@gmail.com**)

Suggestions for Practicing

Success comes from KNOWLEDGE not timed test taking. --- One of the main keys to success on the math contest is knowledge. The more problems they work and the more knowledge they gain, the more successful they will become. Time testing is not important while practicing. Identifying types of problems and working them without time constraints is more advantageous than time testing.

1. Students should learn to look for and identify “quick hitters”. These are the obvious crunchers, drawings, and one-liners. Pass out page 1 of a math test and have the students put “QH” next to the ones they think are quick hitters. After discussing why they marked the ones they did on page 1, move to page 2. Do not work them at this time.
2. After finding the quick hitters on all of the pages, have the students work them.
3. Do the same as #1 and 2 above except have them look for “do-ables” and mark them "DO". "Do-ables" are the ones that they should be able to do if they have enough time and can remember how.
4. Do the same as #1 and 2 above except have them look for the “can’t-dos” and mark them "XDO". "Can’t-dos" are important to mark because the coach can see where the weak spots in the student's math knowledge are.
5. Students should be encourage to practice and learn number sense tricks, since many times the tricks show up on the math test.
6. Students should be very familiar with their calculator. Also, they need to learn when to use their calculator and when not to. Paper and pencil and/or mental math is sometimes much faster than punching buttons. (You may want the students to mark all of the problems they think they need to use a calculator on with a "C". You can see if they are wasting time using the calculator.)
7. I suggest that students create cards (3x5) with drawings, formulas, and shortcuts. Let them use these when working on tests. They can carry them with them to look over when they have free time.
8. Time testing can take place a couple of days before competition. One time test before actual competition is plenty.
9. Working problems is the key to success. The more problems they choose to work the better they will become. Champions work problems whenever and wherever they can steal some time at school, at home, in the car traveling, between commercials, etc.
KNOWLEDGE is the key to SPEED!

Test Taking Suggestions

1. Students should go through the test quickly, working any “quick hitters” first, then spending time working on the “do-ables”.
2. Some coaches have their students carry timers with them so they can keep an eye on the time left on the test. I think the students waste too much time looking at the timers and then anxiety sets in when they realize they have very little time left. But, to each their own.
3. Students should set several goals before they attend each competition. Goal 1 should be the minimum number of questions they must work (beginners - 10, advanced - 20). Goal 2 should be the score they would be happy to reach. Goal 3 should be the score that is 1 problem better than their best score thus far. Goal 4 should be keeping their errors to 10% or less. They should keep a chart on the goals and the success or lack there of in reaching them at each competition.
4. After competition, math teams should work up a complete solution manual for that test, to refer back to later. If 5 students competed then assign 12 problems to each student to develop solutions. If they can't work a problem then the group can work on it together. If the group can't work it then the coach can work it for them. Combine all of the solutions into a manual separating problems into the 9 topic areas.