UIL Test Comments — 2013-14

*** NOTE: See Off on a Tangent for information on workshops and the Student Activity Conferences ***

SAC - - - > No errors reported, however see the discussion below on pairs of solution problems

A - - - > #36 … There is a typo on the key. Answer should be B.

B - - - > #19 … Both A and B are correct.
> #27 … There is no correct answer choice. The way the problem is written, the answer is 40.
> #35 … Typo in the problem … (kept gave) … should have been "kept".
> #55 … Answer should be B … it is symmetric about the pole.

District 1 - - - > #7 … Both C and D are correct.

District 2 - - - > #12 … It appears that the answer on the key cannot be proven with the given information.
#35 … C and D are the same answers, hence both are correct

Regional - - - > #30 … Both B and D are correct

State - - - > #46 … Problem had to be omitted. There was not a correct answer available. The correct answer should have been 1.59 rounded to 1.6.
#51 … Typo on answer choice B … the ending ")" is not needed.

TMSCA Test Comments — 2013-14 (tests I write for TMSCA)

# 6 - - - > #3 … It was reported that there is no correct answer choice available. After reworking the problem, the report was accurate. The answer should be 1/6 not 2/7.
#14 … The correct answer should be 12 not 24.
#23 … I was recently informed that answer choice (B) 23/55 is also correct. So, both B and D are correct. 23/55 base 6 can be reduced by 5 base 6 to 3/11 base 6. Since, I did not state that the answer had to be simplified then both are correct choices.

# 12 - - - > No errors, corrections, or comments reported.

State - - - > No errors, corrections, or comments reported.

Off on a Tangent

Workshops and/or Presentations I will be doing the summer and fall of 2014:

1. UIL Capitol Conference, Austin on July 11 & 12.
2. What's Your 5th Problem - Math Camp at Texas Tech University, Lubbock on July 16-19. For more information contact Jack Barton at jack.barton@ttu.edu or 806-742-2350.
3. Student Activity Conferences:
2013 Student Activity Conference (SAC) information

(note: 2014 SAC information will be posted later in the summer)

Number Sense Session:
There will be a short summary of the contest followed by a Q&A period for any questions students or coaches might have about the contest. (A handout with information, resources, and helpful hints will be available for those beginning coaches who need this information.) After the Q&A, the students will take the NEW 10 minute 2013 SAC test then grade it. The remainder of the time will be spent going over the test and discussing any problems from the test.

Mathematics Session:
There will be a short summary of the contest followed by a Q&A period for any questions students or coaches might have about the contest. (A handout with information, resources, and helpful hints will be available for those beginning coaches who need this information.) After the Q&A, the students will take the NEW 20 minute 2013 SAC test then grade it. The remainder of the time will be spent going over the test and discussing any problems from the test.

Special Session:
There will be a short discussion on the UIL Constitution and Contest Rules followed by a discussion and demonstration of a special problem from last year's tests and a discussion about this year’s mathematics contest special emphasis topics: number theory problems and the 7 trapezoidal "means".

Student Activity Conference Notes

It is strongly recommended that you make every effort to attend one of the Student Activity Conferences each Fall. Much of the information, responses to questions, etc. cannot be displayed in a power point or explained on this site.

Information shared at the Student Activity Conferences will be posted at the UIL SAC website after all of the SACs have been completed for this year.

For those of you who were unable to attend one of the conferences this Fall, you can contact me by email and request a copy of the power points used and/or a copy of the SAC test/key following the last SAC on Nov. 9.

Test Discussions

Pairs of Solution Problems
I was asked at the Arlington SAC to share my method for finding pairs of solutions. There are multiple ways to handle these type of problems. One really nice way is to use slopes of lines. Another way is to use modular arithmetic. Here is an example from last year showing how I use modular arithmetic.
If \( 3x + 5y = 2013 \), then \( 3x \equiv 2013 \pmod{5} \)
\[
3x \equiv 13 \pmod{5} \\
x \equiv 1 \pmod{5}
\]

If \( T \) is an integer, then \( x = 5T + 1 \)

So,
\[
3(5T + 1) + 5y = 2013 \\
15T + 3 + 5y = 2013 \\
5y = 2010 - 15T \\
y = 402 - 3T
\]

Hence the number of positive integer values of \( T \) would be 134.

**STATE MEET PROOFERS AND GRADERS**

Coaches of the regional team champions and the coaches of the regional wild card teams will be needed to proof the state test (while the contestants are testing) and grade the tests.

**Note:**
- You must be a full time employee of the school district.
- You must be listed as the team's coach.
- You must be willing to stay in the proofing/grading room until all grading is complete.

If you are one of the 20 regional team championship coaches or one of the 5 regional wild card team coaches, you need to email me no later than May 12 with the following information:

- Number Sense Contest Regional Team Champion ______ Wild Card Team ______
- Name ___________________________ School & District _____________________________
- Classification _____ Region # _______ District # _________
- I will ____ will not ____ be able to help proof and grade the test.

I will send you a reply confirming that I received your email. If you do not receive an email back from me then I did not receive your email. Hence, I will begin a search for a replacement for you beginning May 13. Email me at texasmath@centex.net.

Good Luck! Work Hard! Play Fair! I am off on another tangent ...