

## NUMBER SENSE (updated 6/27/09)

Larry White - Number Sense Contest Director - [texasmath@centex.net](mailto:texasmath@centex.net)

### UIL Test Comments — 2008-09

**SAC** - - - > (see Off on a Tangent)

(NOTE: If you were unable to attend one of the Student Activity Conferences this past Fall, you will want to read the SPECIAL SAC NOTE in the Off on a Tangent section)

**A** - - - > No errors or corrections reported

**B** - - - > No errors or corrections reported

**District 1** - - - > No errors or corrections reported

**District 2** - - - > No errors or corrections reported

**Regional** - - - > No errors or corrections reported, but a couple of discussion problems.  
See comments (Off on a Tangent) on #17 and #64

**State** - - - > No errors or corrections reported

### TMSCA Test Comments — 2008-09 (tests I write for TMSCA)

**# 6** - - - > No errors or corrections reported

**# 13** - - - > No errors or corrections reported

**State** - - - > No errors or corrections reported

### Canton Test Comments — 2008-09 (tests I write for Canton)

**Fall Invitational** - - - > No errors or corrections reported

**Spring Invitational** - - - > #35 --- The answer should have been 9.25, or  $37/4$  or  $9 \frac{1}{4}$ .

### Off on a Tangent

#### **Special Student Activity Conference (SAC) information →**

Number Sense Session:

This session will be a little different from the past years. 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 10 minute 2008 SAC test then grade it. The remainder of the time will be spent going over the test and discussing new problems and/or approaches to old problems for the upcoming season.

### Mathematics Session:

This session will be a little different from the past years. 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 20 minute 2008 SAC test then grade it. The remainder of the time will be spent going over the test and discussing new problems and/or approaches to old problems for the upcoming season.

### Special Session:

Math and Number Sense problems -- some oldies, but goodies and newbies will be discussed  
Special Topics – special sequences and patterns (Fibonacci, Lucas, etc.)

### See you at one of the SACs (2008 Dates)

Sept. 20 – Tyler Junior College, Tyler  
Oct. 4 – University of Texas, AUSTIN

Oct. 18 – West Texas A&M University, Canyon  
Nov. 1 – A&M UNIVERSITY, Corpus Christi

### SPECIAL SAC NOTE →

Two problems from last year's tests were discussed:

- 1) finding the smaller/larger roots of a quadratic and
- 2) finding the sum of the reciprocals of 4 triangular numbers.

If you would like some information on what was discussed email me and I will send it to you.

Also, you might want to pay particular attention to # 51, 55, 62, 71, & 77 on the 2008 SAC test.

### UIL Regional Test 2009

- #17. First, the word "of " is missing. Sorry about that. Second, I received a call concerning whether the answer 0 is correct. The only way the answer can be 0 is by adding positive and negative divisors which will always give the sum of the divisors to be 0. By definition, proper divisors are the divisors of a number other than itself. In this case the divisors of 115 are 1, 5, 23, & 115 (and their opposites). So, the sum of the proper divisors is  $1 + 5 + 23 = 29$ . It is customary to consider only the positive divisors, since the adding of their opposites will always produce 0, which would be a redundancy. **My decision was that problem #17 stand as a valid problem and the answer stand as 29.** The problem has been written by number sense writers in this way for many years, however, to avoid this issue in the future, I will include the word "positive" in the problem itself.
- #64. This problem involves the summation symbol and its expression. I received a call that some coaches felt that the expression should have been put in brackets. I do not disagree with their comment. The proper way to have written the problem would be to have the expression in brackets. I made a note to do this in the future. Ironically, a similar problem on the district 2 test and several such problems in past years were written without the brackets and was not brought to light. But, that doesn't make it proper. I will include brackets in the future. I felt that the lack of brackets in this case would not have an effect on the students who reached this problem, as they have seen it this way before and if they do not consider the entire expression when working the problem then the problem is non-existent. **My decision was that problem #64 stands as a valid problem and the answer stands as -20.**

Good Luck! Work Hard! Play Fair!

I am off on another tangent ...