MATHEMATICS (updated 4/27/20)

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*** Special Message -- What can I say? ***
By now all of you have gotten the sad news of the cancellation of all UIL activities for this school year. I know many are heartbroken. All of that hard work, dedication, and desires to achieve ones goals and reap the harvest one had hoped for should never end so abruptly.
For the seniors, all I can say is thank you for the years of hard work and the years of joy you gave me as the director. I will miss being able to shake your hands, give you a hug, and spend that last little bit of time visiting with you. It is easy to say you will reap your hard earned rewards in time, but at this present time it might be hard for you to realize that all of your work will lead to a great harvest in the future. My faith, and hopefully yours, tells me that. All I can do is encourage you to go forward, find ways to lift yourself up, and be excited about the challenges, adventures and experiences you are about to dive into in the next great chapter of your young lives. I know you will go forward and make us all proud and become great assets to our world in the future.
I will really miss seeing all of the contestants, coaches, and parents. We will get together again next year, with HIS help.
I pray for good health, safety, patience, and hope for you and yours.
I pray that you be a steady "tent post" for your family and loved ones.
Continue to lean on your family, your friends, and your creator.
As for me I continue to study and learn from the Book of Job and give thanks each and every day that my gracious heavenly Father is the one truly in charge.

UIL Test Comments — 2019-20

*** NOTE: See **Off on a Tangent** below for information on workshops, Student Activity Conferences, and test discussions *******

SAC - - - > No errors reported at this time.   (Release dates: 9/7/19-11/2/19)

A - - - > #23 - should be "consonant" not "constant"
        #27 - there is a typo on the key … should be A not E. (see **Test Discussions** below)
        #33 - should be A not C (see **Test Discussions** below)
        #48 - top function should have "less than only" symbols, "not less than or equal to" and
            there should be an be an open bracket after the 5 in the answer choices, not a
            closed bracket.
        #50 - typo on answer choice (C) … it should be 336 not 337   (Release dates: 1/10/20 - 2/1/20)

B - - - > #22 - there is a typo on the key - should be C not D
        #34 - should say "with replacement" not "without replacement"
        #40 - there is a typo on the key - should be E not A   (Release dates: 2/7/20 - 3/14/20)

District - - - >   *** Cancelled ***   (~~Release dates: 3/23/20 - 3/28/20~~)

Regional - - - > *** Cancelled ***   (~~Release dates: 4/17/20 - 4/18/20~~)

State - - - >   *** Cancelled ***   (~~Release date: 5/1/20 - 5/2/20~~)

TMSCA Test Comments — 2019-20 (tests I write for TMSCA)

 # 6 - - - > #40 - the "-" 75 radians in the problem should have been "+" 75 radians.

(Release date: 12/07/19)

 # 13 - - - > # 7 - Wrong symbol in the problem … should be k not = 0, not k > 0
#15 - typo on the key … should be D, not E
#37 - typo on the key … should be B, not D   (Release date: 3/07/20)

State - - - > *** Cancelled ***   ~~(Release date: 3/21/20)~~

Off on a Tangent

Workshops and/or Presentations I will be doing:
1. UIL Capitol Conference, Austin - June 25-26, 2019.
2. *What's Your 10th Problem* - Math Camp at Texas Tech University, Lubbock on July 9-13, 2019.
    For more information contact Jack Barton at jack.barton@ttu.edu or 806-742-2350.
    NOTE: *What's Your 11th Problem* - Math Camp at Texas Tech University, Lubbock
        is scheduled for July 13-17, 2020 … contact Jack.
        Camp includes number sense, mathematics, calculator, science, and computer science
3. Student Activity Conferences:
    A. Sept. 7, 2019 - Tyler Junior College, Tyler
    B. Sept. 21, 2019 - Texas A & M University - Corpus Christi
    C. Oct. 26, 2019 - University of Texas at Austin
    D. Nov. 2, 2019 - Texas Tech University, Lubbock

2019 Student Activity Conference (SAC) information: (Time Schedule is tentative)
9:00-10:30 a.m.   ---- Number Sense contest: guidelines, rules, resources, practice materials, etc.
                  ---- SAC 2019 Number Sense Test (take/grade) NEW 10 min-80 question test
                  ---- Q&A - discuss/answer questions from the test

10:45–noon   ---- Mathematics contest: guidelines, rules, resources, practice materials, etc.
                  ---- SAC 2019 Mathematics Test   (take/grade) New 20 min-30 question test
                  ---- Q&A - discuss/answer questions from the test

12:15-1:30 p.m.   ---- Number Sense Contest and Mathematics Contest Jam Session:
                  ---- Previous year's problems: bring your problems - we will try to solve them
(time permitting) ---- "Developing Number Sense" problems --- 1926
(time permitting) ---- Number Sense examples from the first 5th/6th grade test --- 1983

NOTE: For those of you not able to attend one of the SACs, all presentations, tests, keys, etc. should
        be posted on the UIL Academic website following the Lubbock SAC.
        https://www.uiltexas.org/academics/student-activities/corpus-2019

Resources Update

T**he mathematics contest is a curriculum based contest. The best resources for the contest are the courses and textbooks adopted by the state of Texas.**

<u>**Test Discussions**</u>

**NOTE: The district, regional, and state tests will be created based on the concepts and problems from these 6 practice tests: SAC, TMSCA 6, UIL A, UIL B, TMSCA 13, & TMSCA STATE.
NOTE: If a concept is addressed by a problem(s) from these 6 practice tests, then other types of problems in that concept area can appear on the district, regional, and state tests.**

#27. The domain of this f(x) is (- infinity, 0) U (0, + infinity), for x not equaling 0.
The range is (- infinity, 5], for {y | y < = 5}.

#33. What I was looking for on this question was the 15th term, but the way it is stated it asks for the 15th Fibonacci number. There is a difference in how the question is asked.
The number 0 (Fsub0) is the zero term. The number 1 (Fsub1) is the first term, 1 (Fsub2) the second term, 2 (Fsub3) the third term, ... 3 - 4th, 5 - 5th, 8 - 6th, 13 - 7th, 21 - 8th, 34 - 9th, 55 -10th, 89 - 11th, 144 - 12th, 233 - 13th, 377 - 14th, 610 - 15th, ...
This is all somewhat similar to the rows of Pascal's triangle. The 1 at the top of the first line is called the "0th row"; (a+b)^0 = 1. The second line is "1 1" is the 1st row; (a+b)^1 = 1a + 1b. The third line is "1 2 1" is the 2nd row; (a+b)^2 = 1a^2 + 2ab + 1b^2 ... etc.
With all this said, if you were to list the first fifteen Fibonacci numbers it would be:
0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377.
So, depending on the way in which the question is asked, the answer will be different.
What is the 15th term of the Fibonacci sequence? 610
What is the 15th Fibonacci number? 377
Thus, in the case of problem #33 on this test, the answer should have been (A) 377.

<u>**STATE MEET PROOFERS AND GRADERS**</u>

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** proofing **and** grading is complete.
(Please do not agree to proof and grade if you are not going to be in the room at the designated time.)

If you are one of the 24 regional team championship coaches or one of the 6 regional wild card team coaches, you need to email me no later than April 27 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 April 28. Email me at **texasmath@centex.net**.

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