TSIA2 Math Test

TSIA2 Math Scores needed
950 **OR** 910-949 6+ on Diagnostic test

Attend a TSIA2 Review Session online or visit Placement Test Preparation website for study resources.
TSIA2 Math Video practice click here
TSIA2 Math sample questions- click here
LSC MATH TSIA2 practice click here
TSIA2 Interpreting your score- click here

How the TSIA2 Math works
1. The exam is untimed.
2. The TSAI2 test adaptive test as you take the test it adjust to your accuracy answering the questions. The test starts with middle difficulty questions. If miss questions the test get easier if the reverse happens you answer correctly the questions get harder. In the beginning it adapts fast then as the test goes on it adapts slower rate. As you get a questions right it bumps up your score, if you answer multiple question incorrectly your score will go down quickly.

TSIA2 Math Test – 20 items TSIA2 Math sample questions TSIA2 practice site- click here You will not need a student ID number, just click Enter student site.

If you don't meet the college readiness benchmark, you'll be routed to the multiple-choice Mathematics Diagnostic Test. Take your time and answer each question to the best of your ability. This test provides you with a second opportunity to demonstrate your readiness in mathematics. The results of this test will provide information on your strengths and weaknesses in each content area. . There are 12 questions from each of the content categories listed above.

The TSIA2 Mathematics test covers four main categories:
- **Quantitative Reasoning**, which includes calculating ratios, proportions, and percents, as well as identifying, manipulating, and interpreting linear equations and expressions.
- **Algebraic Reasoning,** which includes solving equations (linear, quadratic, polynomial, exponential, rational, and radical), evaluating functions, and solving algebraic problems in context.
- **Geometric and Spatial Reasoning**, which includes converting units within measurement systems, solving geometric problems (perimeter, area, surface area, and volume), performing transformations, and applying right triangle trigonometry.
- **Probabilistic and Statistical Reasoning**, which includes classifying data, constructing appropriate representations of data, computing and interpreting probability, and describing measures of center and spread of data.

Diagnostic Test – 48 items this is another set of questions you will get if you do not show College Ready on the first 20. You can still show College Ready on the Diagnostic portion of the test.

Note: Handheld calculators of any type are not permitted for use with the online TSIA2 Mathematics Test. Some, but not all, of the math questions contain one or more pop-up calculators for use in solving problems asked.
TSIA Tips:

1. Practice test format- practice with medium/ hard test questions
2. Focus early stages of test (first 7 questions of Math) Double check your work, for math check your answers and use the process of elimination.
3. Pace yourself- unlimited time test, if you having a hard time on a question take a mental break (close your eyes an take a 10 sec pause) no nap, no closing eyes for 2 minutes.
4. Finish strong- no sprinter mentality, no reason to hurry. If you miss several question in a row it will drop you score quickly. Best bet is to get to question 23 and then take a break, treat the last 7 question as you do the first 7 questions at the start very important. The goal is to show College Readiness on the first 20 question of the Math.
5. If you are stuck on hard question and you do not know the answer take the loss and move on. Try to plug in the answer when possible
6. Don't change a guess to another guess.

Rules for TSI Math!

1. Use basic logic and estimation whenever possible.

2. Use process of elimination to test answer choices whenever possible.

3. **Avoid Algebra whenever possible**. Instead, plug in values for the variables and solve!

Basic Concept Sheet!

A. Statistics
- **Mean** = classic average (add up all the values and divide by the number of values)
- **Median** = middle number
- **Mode** = most frequently occurring number,
- **Range** = difference between highest and lowest number
- Analyze all charts/graphs starting with the Title, the Y-axis, the X-axis, the Key, then LASTLY study the Data (the bars or points on the graph).

B. Graphing
- For y=mx+b , m is slope (rise/run), b is the y-intercept.
- At the y-intercept, the x value is always 0.
- At the x-intercept, the y value is always 0.

C. Probability
- **Probability** = winners / (total # of possible outcomes)
- When considering the probability of events, **avoid answer choices with *Absolute* statements** ("this MUST be the case" or "you will get EXACTLY" this outcome). With probability, we can only speak about how "likely" a thing is to be the case.

D. Conversion Units
- 1.5 hours into minutes: 1.5 hr 60 min1 hr Hours cancel out, and you are left with only minutes!
- Put the unit you want to go into in the numerator. The unit you want to go away from in the denominator!

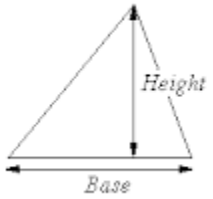
E. Properties of Exponents
- Negative Exponents

$$3^{-2} = \frac{1}{3^2} = \frac{1}{9}$$

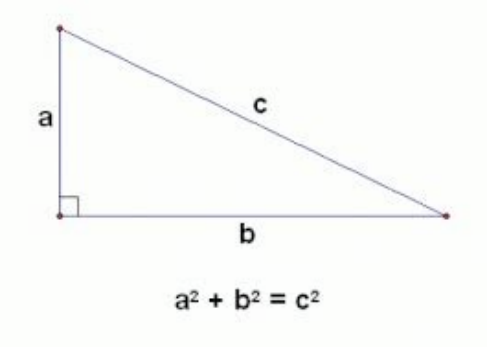
F. Functions
- Understand *x* as the input, *f(x)* as the output. Also understand *f(x)* as fancy *y*.

G. Geometry
- **Perimeter** = Add up all the sides of a figure (the length all the way around)
- **Area of a rectangle** = (length)*x*(width)
- **Volume of a Rectangular Prism**, like a shoebox, or a Cube = (length)x(width)x(height)
- **Area of a triangle** = (½)(base)x(height)

$$\text{Area} = \frac{1}{2} \times \text{base} \times \text{perpendicular height}$$



- **Right Triangle** = A triangle with a 90 degree angle!
- Look out for **3,4,5 right triangles**, or multiples of 3,4,5 like 6,8,10 or 9,12,15
- **Pythagorean Theorem**:



- π = 3.14 (approximately)

P.E.M.D.A.S. Order of Operations! - When simplifying expressions, simplify in the order below:

- Parenthesis - calculate what is inside the parentheses FIRST, before doing anything else
- Exponents - calculate anything raised to a power
  for example, ((-9)2= 81)
- Multiplication
- Division
- Addition
- Subtraction

Glossary of Terms:

- **Integers** - Whole numbers like 1, 2, 3, 4, 5, etc... 0 is also an integer, as are negative whole numbers like -1, -2, -3, -4, -5, etc.
- **Odd numbers** - Numbers you *CAN'T* divide by 2 (and get a whole number as a result). Includes 1, 3, 5, 7, 9, 11, 13, 15, 17, etc…
- **Even numbers** - Numbers you *CAN* divide by 2 (and get a whole number as a result). Includes 2, 4, 6, 8, 10, 12, 14, 16, etc…

Real Number - Any positive or negative number. Can include whole numbers, decimals, or fractions. Examples include 1, 15.82, −0.1, and ¾. The only numbers that are NOT real numbers are *negative* square roots, such as -4 or -36. That's because there is no real solution to -4 (there is no number *times itself* which gives you -4).