Test Taking Tips: MATHEMATICS

Students take many different kinds of tests on many different topics. One area that is frequently tested is MATH. Here are pointers for you to remember when taking math tests.

- Is a REFERENCE CARD provided for the test? Many math tests do not call for the student to have memorized facts & formulas, instead that kind of generic information is given and the students must transfer and apply what they know in order to answer the question correctly.
  - Begin by seeing what facts & formulas are given. Read each test question and consider which formula or problem-solving strategy would be best to solve the problem.
  - IF a reference card is NOT provided, then prepare a set of facts, formulas, key vocabulary terms, etc… that you have been using during class and be sure that you can state the correct formula AND study those prior to the test.
  - REMEMBER! It's not just knowing what the formula is or how to pronounce and spell the key vocabulary words - It's understanding the process and the meaning that goes with it.

- Is the use of CALCULATORS allowed on the test? If so, keep these things in mind…
  - Do not share a calculator during a test. Everyone needs to have their own.
  - Is it operational? Does it work? Be sure, try it our BEFORE you take the test.
  - Is a particular type of calculator needed for the test? In many cases a basic calculator will be adequate enough. When being assessed on upper level math concepts, a 'graphing' calculator may be called for. Be sure that you have the right tools for the test that you are taking. Be prepared in advance.
  - If you have not used a calculator before be sure that you become familiar with each of the keys and basic functions of the one you will be using.
  - Calculators are not used when solving basic computation problems where the calculator could give the student the "one right answer'.

Instead calculators are used a tool to see if your answer is an acceptable one.

- Will the test allow the use of MANIPULATIVES? If so those kinds of tools may help you to solve the problem more accurately.
  - What kinds of manipulatives will be used? Ruler, protractor, compass, tangrams, pattern blocks, attribute blocks, counting tiles, etc…?
  - Are you familiar with the tools that you will be using? If not, be sure to practice using them before you take the test. FREE EXPLORATION will allow the student to become accustomed to using the manipulatives in a non-critical time.

- TABLES, CHARTS, and GRAPHS are a common feature on math tests. They are used to see if the student can interpret and analyze the data. Many times the facts and figures presented in the graphic forms are math concepts and numbers.
  - Be sure that you are familiar with all types of graphs. Can you identify and / or create a *line graph? bar graph? circle graph?*
  - Every time you are called upon to create a table, chart, or graph be sure to construct it correctly AND properly label it. Label each axis and give the display a title.
  - Facts needed to solve a problem can be given in pictures, charts, graphs, and in diagrams. Have students study the information presented and then answer the following problems BEFORE trying to figure out the answer.
    - What is the problem about?
    - What do the headings and titles tell me?
    - What do the symbols and scales on the graphs stand for?
    - What facts are needed to solve the problem?
    - Have I ever seen a problem like this before? What did I do to solve that one?

- Computation problems are a 'given' on a math test. For these items calculator use is not allowed, so be sure that you how to do the basics, add, subtract, multiply, and divide.
  - One problem that often arises is the confusion a student encounters when the problem is written *horizontally* versus *vertically*. Have students practice writing problems in both forms with an emphasis on correct alignment of numbers based on place value.

- If students have trouble with memorizing basic facts, such as multiplication problems, then teach them tricks like 'finger math' to help them make it through those types of problems. (See handout for explanation of Finger Math.)
- Word problems contain computation problems, but the wording often confuses students on which mode of operation is necessary to solve the problem. Look for 'clue words' in math problems to help students determine what action is called for.
- Estimate the answer first then do the work on scratch paper to check to see how it compares with the answer choices (for multiple choice problems) or with what would be considered an reasonable answer. For practice provide a set of problems with reasonable and unreasonable answers. Don't worry about trying to solve them, instead identify which answers would be acceptable. *This teaches students the test-taking skill of *'Process of Elimination'*.

- Using the correct *vocabulary* during regular instruction. Examine the textbook and the curriculum to see what the key terms are.
  - If there are synonyms for the same process then be sure to learn and understand both terms. For example: estimate and round off.
  - *Direction words* are another important thing to learn and understand when it comes to solving problems. These words tell how the problem is to be solved and what type of information is expected in the answer. For example: "Below, several coins are shown; pennies, nickels, dimes, and quarters. Circle the fewest coins which will equal exactly $.29" (Here both adding the values of different coins to get the exact sum is called for, as well as circling the coins to indicate your answer.)

- *Timed tests* cause students' anxiety levels to increase, so practicing simulations prior to the test is a good way to help students become test-wise.
  - Timed tests require students to understand the idea of pacing themselves in order to work through all of the problems on the test during the specific amount of time allowed. For practice, give a few easy problems and a short amount of time for students to solve them. As their confidence builds increase the difficulty level and the time limit.

- Another way of replicating a realistic testing environment is to add problems where manipulatives and calculators are used during the timed tests. Focus on the time needed to distribute supplies AND take the test .

Mathematics Any Which Way!

$$\begin{array}{r} 16 \\ +18 \\ \hline \end{array}$$

or

$$16 + 48 =$$

Tally Marks

IIII and I more equals