# Gellerisms
on **SAT Mathematics**

- MATH IS JUST ANOTHER LANGUAGE. The PSAT/SAT math problems will be presented in English language, math language and diagrammatic language. The ability to translate is paramount; let the problems talk to you.

- YOU CAN'T WRITE THE ESSAY IF YOU DON'T KNOW THE ESSAY QUESTION. If a problem begins with the word "if," always look past the comma first to determine exactly what the problem is asking.

- Use a calculator during ALL practice sessions if it increases your comfort level.

- An important part of problem solving is to be neat and disciplined as you work.

- Through PRACTICE you will learn what "they're" testing and thus be able to move more quickly through the math sections.

- On the PSAT/SAT there are ten student-produced response questions. Therefore you must be comfortable solving many problems algebraically from start to finish rather than relying on the answer choices as a crutch for your problem solving.

- On the PSAT/SAT, math problems are presented mostly in order of difficulty as determined through field testing. BE HALF-PARANOID and SLOW DOWN while working on the last third of a math section; traps must lurk there because most students missed those problems.

- Underline adjectives in math problems, i.e. "positive," "different," "least," etc. They mean a lot toward solving a problem.

- "Integer" is the most frequently appearing word on the PSAT/SAT. THE INTEGERS ARE THE COUNTING NUMBERS, THEIR OPPOSITES AND ZERO. A casual definition: the numbers you would use to label a number line. Learn and understand the definition!!!!
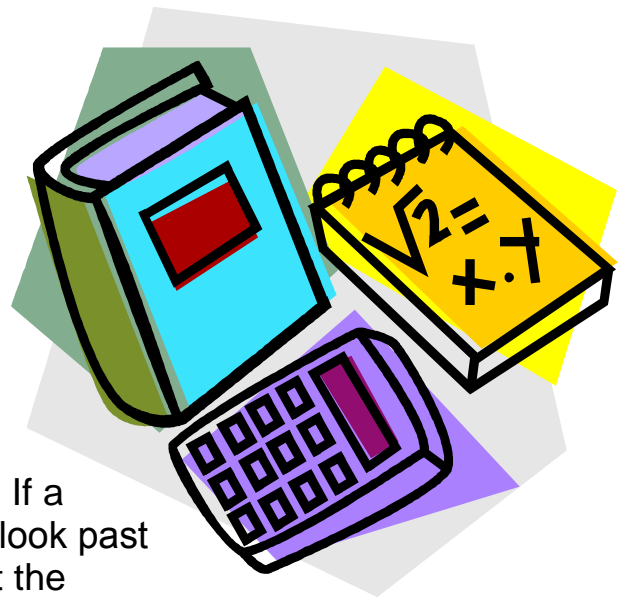
- There are five ways to combine equations: substitution and SMOOSHING using the addition, subtraction, multiplication and division properties of equality.

- The words "must be" in a problem signal that you must think of all possibilities before bubbling in an answer choice. "Could be" signals thinking of just one possibility. Be careful.

- Always SIMPLIFY BEFORE YOU SUBSTITUTE! Using the properties of equalities, fractions and proportions, make expressions and equations "easier."

- If you see the word "product" or "sum," just relax and know that some other students mix up the two operations. "They" are just testing math vocabulary.

- There are only three ideas that you need to know about prime numbers: the definition, 1 is NOT a prime number and 2 is a prime number.

- If a problem speaks of "factor" (synonymous with "divisor"), identify the associated "multiple" (synonymous with "product") and vice-versa.

- GO BACK TO FOURTH GRADE and review fraction concepts. Be able to manipulate common fractions – add, subtract, multiply, divide and simplify them.   GET RID OF THOSE CALCULATORS ONCE IN A WHILE!

- The word "remainder" signals BIG R in a division problem, another FOURTH GRADE concept

- Expect problems needing ratios and/or proportions as solution methods; they are a part of most standardized tests. In the word "RELATIONSHIP" is the word "RATIO."

- DON'T LET ANYTHING HANG; GET A 1 UNDER IT. Then you will have a proportion to which you can cross multiply. And get rid of those slanty bars; FRACTIONS HAVE TOPS AND BOTTOMS.

- When confronted with rational equations, the quickest solution is to multiply all terms on both sides by the least common denominator, i.e. DROP THE BOTTOMS.

- When asked to find a percent of increase or decrease, remember the formula
$$\frac{\text{DIFFERENCE}}{\text{ORIGINAL}}$$

- There are three types of average problems: finding an average; finding an average when the word "consecutive appears in the problem – do LITTLE WORK, the average is the middle number; finding a missing addend when the average is given: use **S = NA**

- A triangle problem often will be one of three types: if only angles are "discussed" – the sum of the degrees of the angles in the triangle equals 180º, if angles and sides are "discussed" – the side opposite the greatest angle is the longest, and if only sides are "discussed" – in length the third side has to be less than the sum of the other two sides and greater than their difference

- Exterior angle theorem – measure of the exterior angle is equal to the sum of the two remote interior angles – has been on soooooo many tests.

- LENGTH OF ARC = PORTION OF CIRCUMFERENCE

- When no values are given, turn percent and geometry problems into REAL LIFE SITUATIONS – PLUG IN NUMBERS.

- Make your life easier if inequalities of sides are not required: use a cube if the problem speaks of a "rectangular solid" and use a square if the problem speaks of a "rectangle"

- You've been brain washed: you do not always have to distribute; you do not always have to use pe^{rim}eter – sometimes half the pe^{rim}eter will do.

- Surface area = AREA OF THE SURFACES

- A SLANT LINE IS ALWAYS SOMEONE'S HYPOTENUSE.

- For distance rate and time problems, draw a chart and draw a picture. YOURS WILL BE BETTER THAN MINE!

- To find the number of items inclusive in a consecutive set of integers, subtract the beginning integer from the last integer and add 1. $(y - x + 1)$ To find the number of items non-inclusive in a consecutive set of integers, subtract the beginning integer from the last integer and subtract 1. $(y - x - 1)$