Gellerisms
for PreACT/ACT Mathematics

• MATH IS JUST ANOTHER LANGUAGE. The Pre-ACT/ACT 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.

• 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.

• Become comfortable solving many problems algebraically from start to finish rather than relying on the answer choices as a crutch for your problem solving.

• Solve the first twenty problems as quickly as possible – without too much calculator assistance – spending more time on the last twenty, more difficult problems

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

• “Integer” is a frequently appearing word on the college-entrance tests. 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.

• 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.

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 180°, 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 perimeter – sometimes half the perimeter 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!