

“Foundations” creates a new way to conceptualize math class.

Even the best learners in math class benefit.

Deep learning methods enhance natural curiosity as well as increase motivation. Listing topics and separating that list into two lists creates a beginning. A sense of location is found.

You take charge of an opening of your perception.

Various social manifestations will occur, and will govern how you interact with second school learning media.

Goal 1: Learn how to write college level mathematics, as class notes and as private inquiries using what we call ‘topic trajectories’.

Goal 2: Strengthen arithmetic skills by re-developing arithmetic in a base other than base ten.

Goal 3: Learn the full and proper notation necessary to talk about various sets, such as domain and range, solution sets and replacement sets.

Goal 4: Become self-directed in the study of any freshman college course.

Goal 5: Internalize topics, such as replacement sets and solution sets.

Goal 6: Provide a good introduction to polynomial, exponential, and logarithmic functions and functional composition.

The first two goals we address now.

Learning to write about mathematical concepts is a difficult task, for many reasons. But these reasons each flow from basic natures. When one's experiences in math class are not positive, nature creates a resistance to learning.

For many of us; math class is not positive.

Second school makes learning to write as simple as possible.

One way to learn how to write is to write about an interesting beginning curriculum involving positional notation and number bases.

You will not likely have seen the full picture regarding how positive integers are represented.

Rediscovery of Arithmetic and Set Theory

Consider the integer 1305 in base 10.

$$(1304)_{10} = 1 \times 10^3 + 3 \times 10^2 + 0 \times 10^1 + 4 \times 10^0$$

Note that $10^0 = 1$.

Yes the exponent here is 0 and the “*” does stand for multiplication.

Notice that my handwriting is far more complex than writing using a keyboard. You should expect your college teacher to use a caulk board and write in ways that you sometimes barely understand. Looking at handwriting is different.

What would be an equivalent representation in base 7? Before reading further, pause. Think through what you might already know or be able to realize about the above statement, about the integer 1304.

Please take the time to find a piece of paper and a pencil or pen. Internalize what is written above and without looking write the same thing on your paper.

On the left hand side of the = mark is ‘positional notation’.

Here you could stop and use Google or Khan Academy to get the sense of a rich and long history regarding 'positional notation'.

Let us not imagine there is nothing here to learn.

We may write the question as:

$$(1304)_{10} = (\quad)_7$$

We could put a question mark inside the round parentheses.

$$(1304)_{10} = (?)_7$$

Ok, so we are introducing new notation. This is necessary if we are to write and communicate using handwritten notes.

Our mentors know how to advise you because we exchange notes within dedicated, and private, second school learning media.

The richness of handwriting is part of how certified mentors evaluate your messages, and how with the help of algorithms and second school training, a mentor will communicate with you.

Most often communication will be in the form of an assignment. Completing that assignment will require your producing a new handwritten message and forwarding that message into learning media.

It is helpful if you understand what deep learning methods are and how they arise from computer science and behavioral neurology.

A model about human perception cycles is used¹. This cycle involves an internalization of topics found within various curriculums; for example high school mathematics, college preparation, or freshman mathematics at a college or university.

Deep learning methods develop your capacity to communicate clearly through hand written descriptions about topics. These descriptions are then scanned and sent into learning media, where second school certified tutors read them and based on our understanding of the material, and on our catalog of learning types, a recommendation is sent back to you, via email.

The use of second school media is not something that one does and then stops doing when the next test is passed.

Deep learning opens new doors to life long learning habits in all areas.

¹ More on this is discussed in technical papers available at educationworlds.com.