

You have what it takes to do well in high school math.



How do I know?

Because your brain is designed to solve complex problems. It can help you get a frisbee into your teammate's hand when they're 30 yards away. It can help you parallel park, even in a high pressure situation like your driving test.

Your brain is wired to do math.

If you're skeptical, though, you're in good company. More than half of young adults in a [recent survey](#) said they're not good at math.

So if so many students find high school math a challenge, how can I be so sure you can get an A?

### It's about the approach

Imagine climbing half dome. You could head up the face — which is hard. People who choose that route aren't necessarily more "talented", but they have had a lot of experience. Or you could head up the back. It's a steep uphill hike, but most people can do it.

Approaching math is the same. If you've had a lot of practice and you've mastered the math you've learned already, you can dive in and start solving problems. That's like climbing the face.

But if you want an easier, more reliable approach, you'll want to try a different route.

Here are some of the challenges to getting A's in high school math, and some strategies for getting past them:

Math is in code

You're not comfortable with feeling confused

You try and solve the problem before your brain is ready

You don't leave enough time

Let's look at these one by one.

### Math is in code

Math is a language with its own alphabet, and to "speak math" you have to learn it. In high school math you've probably come across these:

$\neq \approx \geq ( ) \% \angle \perp \pi f(x)$

They're learnable, but you have to get used to them.

### You're not comfortable with feeling confused

Confusion is a natural part of learning. To add something to your long term memory, you have to take things apart and reassemble them. This process happens unconsciously, out of your awareness. High school math students often misunderstand confusion, and give up on a problem before their brain has a chance to link things together again. Instead, know that confusion is a sign that you're brain is working hard at something it's wired to do, and get ready to solve the problem.

### You try and solve the problem before you brain is ready

Before you solve a high school math problem, you need to understand it. That might mean drawing a picture, or reading part of the chapter you're working on. It definitely means understanding every aspect of the problem before starting to solve it. This step is 80% of the work of solving a math problem. Here's an example from high school statistics. Notice that every part of the equation is explained in everyday language except the word "mean". If I wasn't sure what a mean was and how to calculate it, I'd create another page for that. I created it for a student. He had been mechanically crunching through problems, but wasn't sure he was really "getting" what he was doing. He used this diagram, and added a sample problem so he could see how his data fit with the equation. The 15 minutes it took to create this helped the confusion settle, and got him ready to solve the problem. It also gave him a tool to use in other high school math classes.

Standard Deviation

Standard deviation measures variance, which is how far a set of numbers are spread out from the mean (average).

3, 4, 5 ← small variance  
 1, 15, 70 ← large variance

sigma-symbol of →  $\sigma = \sqrt{\frac{\sum (x - \mu)^2}{n}}$

Standard deviation

$\sum =$  sum (add them up)

your data point - the one you are testing

the mean

number of data points in the sample

## You don't leave enough time

Procrastination makes it harder to learn.

Not just because you run out of time to finish the assignment. And not just because it doesn't leave you time to check the answers and make sure they're correct.

The real problem with procrastination is that it interferes with the natural cycle of learning and sleep. This happens at both ends.

After a good night's sleep, **you can learn about 40% more**. But sleep also reinforces memory and links new learning to older, more established memories. Sleep helps move short term memory into long term memory.

Over a week, this pattern of study-sleep-study-sleep can double what you understand — and retain.

The solution? Study math a little every day, and sleep well every night.

## Getting A's in high school math

Your brain is wired for math. You can do well, if you give your brain a chance.

Rather than scrambling up the most obvious (and most difficult) route, take a slight slower more brain-friendly approach by using these 4 strategies: 1) learn the code; 2) be patient with confusion; 3) help your brain get ready before jumping in; and 4) do a little high school math every day.

If you use these strategies, you'll start to see your high school math scores go up. Doing well in high school math is not about "being good at it". Instead, being good at math is all about your approach.

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