

Learning Math

Here are some suggestions for learning math. This is a subject that is best learned by repetition and practice. I've organized the websites in roughly the order of their usefulness and quality.

From a Disqua discussion board, Myles recommends [PatrickJMT](#). His tutorials are incredibly detailed. He does occasionally make mistakes which he corrects fairly quickly. I can't tell if that's intentional or if he hasn't figured out how to edit video. In either case, if you're looking for step-by-step instructions covering basic algebra through calculus, give him a try.

A former student (thanks, Karen!) pointed me to IXL (<http://uk.ixl.com/>) which has hundreds of online interactive exercises. Immediately moved to the top of this list. (Added December 17, 2012.)

Pearson Higher Education offers MyPearsonLab (<http://pearsonmylabandmastering.com/>) for math, economics, business, and various science courses. Unfortunately, the site is designed to be used with (what else?) Pearson textbooks. I use MyLab with several of my economics courses and have been impressed. But the structure of the site requires that an instructor create a course and students register for the course. I'm exploring other options to see if there's anything I can do to work around this situation. The problems are very interactive with detailed, guided solutions and good feedback. Downside: a few answers are wrong. Another downside: it's not free. But there is a 17 day free trial option.

AnalyzeMath (<http://www.analyzemath.com/>) isn't very interactive, but it includes hundreds of problems with detailed solutions. You'll need quite a bit of paper and a

few pencils for this one.

Similarly, Interactive Mathematics (<http://www.intmath.com/>) has hundreds of problems with extremely detailed solutions. Not very interactive, but complete, detailed, and free.

PBS (<http://www.pbs.org/teachers/>) has a series of teaching activities, some of which are pretty good. But you'll have to search through those that are not so good.

Learning Keys (<http://www.learningkeys.com/index.jsp>) is fairly simple, but it's speedy and can be fun. Lets you play with a problem type until you get bored. And it's free.

Teaching Treasures (http://www.teachingtreasures.com.au/maths/Maths_more.html) is an Australian website. The material is all over the place. But on the linked page you'll find "Improve your algebra," a set of drills in real time. Highly recommended.

National Library of Virtual Manipulatives (<http://nlvm.usu.edu/en/nav/vlibrary.html>) is really pretty good, but you have to hunt. For example, if you select Algebra, you'll have to scroll to the bottom of a long page to see material for grades 9-12. Once you're there, some of the exercises are useful, but not all of them.

ExploreLearning (<http://www.explorellearning.com/index.cfm>) uses "gizmos" to let you manipulate graphs. The gizmos require Adobe Shockwave which you'll probably have to install. Beware: Shockwave will try to install Google Chrome and make it your default browser. Easy to use, but limited educational value.

The Math Forum at Drexel University (<http://mathforum.org>). You can sign up for a free trial, but I'm not crazy about the pedagogical technique. Not enough "show me how to solve this problem." Instead you get verbal hints.

Wolfram Demonstrations (<http://demonstrations.wolfram.com/>) is a little advanced. You'll need to download the Wolfram Mathematica Player (free) to work with these examples. It's a plugin for web browsers. But the site isn't that useful because it doesn't walk you through the solutions.

Texas Instruments (<http://education.ti.com/calculators/products/US/home/>) offers downloadable course material that teaches various math concepts. Unfortunately, it looks like you must purchase their TN-spire software which costs less than \$50 for students. (I'm a cheapskate and generally don't bother with sites that don't offer a free trial. If there's one available from TI, I couldn't find it easily.)

The Khan Academy (<http://www.khanacademy.org/>). Frankly, I'm not a big fan of Khan. I find it has too many lectures and not enough practice with feedback. But you can't beat the price: zero.

Wolfram MathWorld (<http://mathworld.wolfram.com/>) is a collection of readings and references about mathematical topics. It may be useful if you need a definition, but probably will not help much at learning how to do math. At least it's available for free.

A good source for additional resources is Homeschool Math (http://www.homeschoolmath.net/online/interactive_math_sites.php). Scroll to the bottom of the page for a table with links to various topics and methods.