

Mathematics: What & Why
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“Mathematics” is hard to define. One definition is “the body of knowledge centered on concepts such as quantity, structure, space, and change, and also the academic discipline that studies them.” It’s more than just a set of tricks – it’s a way of understanding and solving problems.

Why learn mathematics? Here are several reasons:

1. Math is incredibly *useful*. Many tasks can only be practically done by using mathematics (often creating new technological devices or solving new problems *requires* it, e.g., to design it, or to prove that it’s trustworthy). Our society—and the globe—increasingly depends on technology, which is in turn dependent on mathematics.
2. Math is *required* to do or be permitted to do many careers or activities. Math opens many doors! This is obviously related to math’s usefulness. If God is calling you to do something requiring the math, you need to learn it!

“To compete in the global economy, you must know math. Therefore it is more important than ever that our students receive solid math instruction in the early grades to prepare them to take and pass Algebra and other challenging courses in middle school and high school.” — U.S. Secretary of Education Margaret Spellings

“To compete in the global economy of the 21st century, knowledge of math is critical. Today’s high school graduates need to have solid math skills—whether they are proceeding directly to college, or going straight into the workforce. In today’s changing world, employers seek critical thinkers and practical problem-solvers fluent in today’s technology. [Yet] U.S. Students are currently performing below their international peers on math and science assessments:...”
[“Math Now: Advancing Math Education in Elementary and Middle School”, U.S. Dept. of Education, <http://www.ed.gov/about/inits/ed/competitiveness/math-now.html>]

3. Math is *interesting* in its own right. Math is easily viewed as a set of puzzles that are very satisfying to solve. There are incredible and surprising relationships between various mathematical ideas, ones you cannot appreciate without some grounding in math.
4. Math is a human *heritage*. Many smart people have discovered extraordinary things about numbers, structures, and so on, and learning math will let you in on this great heritage. Someone here may even go on to develop new mathematics, adding to that heritage.
5. Math training will *help* you learn to *think clearly*. Mathematical training can help you to think abstractly and clearly in a way no other discipline can really do, and that’s a skill worth having.
6. Math can help you learn to *persevere*. Doing anything non-trivial can help you discipline yourself to persevere, so while this is not unique for math, it’s true for math too. This is a character trait that is useful anywhere.

If any are afraid... please don't be! Some of you may have trouble with some things, but if you have trouble, ask me! Persevere... and I will try to help.

“...whatever you do, do all to the glory of God.” 1 Corinthians 10:31

“I can do all things through [Christ] who strengthens me.” Philippians 4:13