

Why Should We Study Geometry ?

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Geometry has been shown over a very long time (maybe a few thousand years) to require certain generally important and useful thinking skills - and therefore to provide excellent practice in those skills.

- 1] Good geometry thinking requires you to be careful with the difference between what we REALLY KNOW and what we only ASSUME we know.
- 2] Geometry requires you to take known information and extend it to work out what must follow from the known information. Example: If we know 2 angles add to 120, we can tell the 3rd angle in a triangle must be 60 degrees because the sum of the three angles of any triangle is 180 degrees.
- 3] Good Geometry also makes us practice focusing on what is important in a problem. Lots of those diagrams contain extra information that isn't ever needed, or at least isn't needed yet.

These are all good skills that apply in all walks of life. Remember your teacher has no idea what actual real problems you will face in life. So Geometry aims to develop your thinking skills.

As an extra, Geometry (and all school subjects) give you practice in learning new things (you will/should need this skill forever), How to communicate with someone else and how to persevere when things get a bit hard.

The geometry with which we are most familiar is called Euclidean geometry. Euclidean geometry was named after Euclid, a Greek mathematician who lived in 300 BC. His book, called "The Elements", is a collection of axioms, theorems and proofs about squares, circles acute angles, isosceles triangles, and other such things. Most of the theorems which are taught in high schools today can be found in Euclid's 2000 year old book.