

Real Life Applications of Geometry

- The word *Geometry* comes from the ancient Greek words "*Geo*" meaning Earth and "*Metron*" meaning Measurement.
- The "*Father of Geometry*" was an ancient Greek mathematician named Euclid (300BC).
- Some uses of *Geometry* are outlined below:

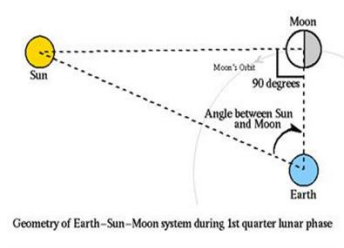


1) *Geometry* is used extensively in the design (architects) and construction of buildings all over the world. The regular shapes we study on the course like rectangles, triangles, cylinders and many more, appear in some of the most famous buildings around the world. See how many regular shapes you can spot in the model of the Parthenon building in Athens, Greece, on the right. Check out the building as it looks now:

<http://en.wikipedia.org/wiki/Parthenon>



2) Astronomers use *Geometry* to measure the distance between planets and their moons, or planets and the sun. For example, during the first quarter lunar phase of the moon, it turns out that the earth, the moon and the sun line up in an almost perfect right angled triangle. If we know the distance to the moon from the earth and measure one other angle, we can easily calculate the distance to the sun from here.



3) Civil Engineers use *geometry* a lot. Some of the things they do is ensuring roads have the correct slope (camber) on them so water can run off easily. They would also ensure footpaths are at the correct height and design wheelchair ramps to access certain buildings also. The design of motorways, onramps, fly-overs all require an understanding of *geometry*. Check out the N.U.I.G. Civil Engineering site:

<http://www.nuigalway.ie/engineering-informatics/civil-engineering/>



4) *Geometry* can also be used to measure the heights of different objects as well like buildings, cliffs, waves, trees and many more. This would be useful in the construction industry, in oceanography and in geography. A device called a [clinometer](#) is used to measure heights, which we will see later on.

