

## Tangles with Quadrangles

I showed Dad a square I drew using Astrid's ruler and told him that I could not draw it using mine, as all corners of my ruler are rounded. He said: "you can draw a beautiful quadrangle using your ruler." I said that I did not know how to do it and did not even know the meaning of the word quadrangle. My dad said the word quadrangle comes from Latin and consists of two parts; "quadri" which means four and "angulus" which means angle. I guess one sounds smart when he says "quadrangle" instead of "fourangle." I think "quadrangle" also rolls in the mouth better "quad-ran-gle, quad-ran-gle."

I like saying it, but how to draw it? My dad said: "draw four points anywhere you like on a piece of paper and connect them with straight lines so that exactly two lines come from every point and the lines do not intersect." [Here is my picture](#). While I was doing it, Astrid came and started drawing too. Her quadrangle looked very different. ([here](#)) My dad said: "you drew very different shapes, but they both are quadrangles, because they both have four angles." Astrid said "in school we call such shapes "quadrilaterals"". "That's right," – said Dad – "they have four angles and thus they have four sides." "Latus" in Latin means "side."

"Quadrangle – Quadrilateral" those are fun words to say. When I really love words I google them to see pictures.

I googled "Quadrangle" and one of the first things that came up was "Quadrangle Shopping Center in Dallas, Texas." I showed this to Astrid – "do you think they sell quadrangles there?" She made her "all grown up" face again: "No, silly, no one sells quadrangles. They are not sellable. Probably the name comes from the form of the building." Does she even think when she speaks? The shopping center where we go also has four corners, but I never heard anybody calling it a quadrangle. I guess they could... Maybe there is something really special about that "Quad-ran-gle" shopping center in Dallas...

I asked my mom whether I could call grandpa's woodshed "Quad-ran-gle" wood shed, as it definitely has four corners. My mom said: "let's make an adjective from the word quadrangle and call it "quadrangular woodshed." We will ask Grandpa to build another one with only three corners and will call it "triangular woodshed." I love it – my mom always plays with words and has all sorts of great ideas!

I told my dad that we would ask Grandpa Andrew to build a woodshed that is not a quadrangle – maybe this would be the first building of this type. My dad said that we definitely would not be the first. For one thing, the most famous building with five sides was built in Washington DC long before I was born (1941-1943). It is called The Pentagon. A lot of military officers work there. Actually, it is the world's largest office building.

My dad also reminded me that when we visited aunt Maddie in New Hampshire, she drove us to the village of Piermont and we took photographs of a sixteen-sided barn built in 1906.

It looks like I was born too late – people thought about all these great things before I was born!

I asked my dad whether there was a special name for a sixteen-sided barn.

My dad said that we would have to use Greek again. Similar to pentagon where “penta” means five and “gon” means angle, we can translate sixteen-sided (or rather sixteen angled).

So “hexa” means “six”, “deca” means “ten”. A sixteen-sided shape is a hexadecagon.

Do I have to learn Greek before I can study geometry?

I am not sure, but *Hexadecagonal* is sure cool, and there not too many of those around.