

## Square

My friend Jimmy plays soccer. He likes it when Astrid and I come to see his games. Every time he has a game he will tell us when and where, and then inevitably adds: “be there or be square.” I do not like this expression because I do not understand it – neither Astrid nor I can be a square whether we come to Jimmy’s game or not. How can a person be a square? A square is a geometric shape that has four equal sides and four equal angles.

As you know, I have a ruler that is 12 inches long. (remember, I told you a story about a foot.) Unfortunately, my ruler has round corners. Astrid’s ruler is much shorter – only six inches. The width of her ruler is exactly an inch, and the best part – the corners are very sharp. Astrid said that she can place her ruler on top of a piece of paper from her notebook so that the corners of the ruler and the paper become like one. Astrid said that these are not even corners, but angles, and they are *RIGHT* angles. I was not sure how the angles could be right. Astrid always says that she is right, but her angles... My dad said that Astrid is right – her angles are right, but it simply means that one can take a protractor and measure 90 degrees on her angles. My dad said they taught Astrid at school how to do it and they will teach me soon too. For now I can just compare with the piece of paper from a book or a magazine – if my angle and the paper are the same, that is 90 degrees. Sometimes my angles can be larger or smaller than the ones on the book. My dad said they have special names too, but if my angle is the same as the book, then my angle is right.

If I would like to draw a right angle, I ask Astrid for her ruler. All I have to do is to place it on a sheet of paper, draw a good dot touching any pointy corner of the ruler, and then, starting at the dot, trace along one side and along the other. This way my angle will be right.

If I would like to draw a whole square, I will trace the whole long side, then place the short side of the ruler on the line so that the corner of the ruler is at the end of the first line that I have drawn. So I will trace the long side again – this will make two lines of 6 inches connected at 90 degree angles. I will repeat, placing the short side of the ruler on the newly drawn side and move the ruler to the end of the newly drawn line. I should take care that the fourth line closes the shape. Isn’t this funny – I have to go around a circle to draw a square?

While I was drawing a square I remembered that the central square downtown looks rather different. So I asked my Mom why. She said that the word “square” also means a wide place in a city between the streets. She said I should have asked this question when we visited New York City and watched the New Year’s Eve ball go down. I remember the ball, but I do not remember whether Times Square is a square. My mom said: “not at all – it looks like your dad’s bow tie.” My dad does not wear a bow tie too often – only for formal dinners of astrophysicists. Then my mom teases him, saying that he looks real fancy with those two triangles on his neck... But a square that looks like two triangles is a bit much.

In some cities, the squares do not even have straight lines. My mom went to Rome for a symposium of microbiologists. She brought a big photo album. There are so many beautiful parks and buildings in Rome – I love looking at them! I think one day I will go there myself.

Saint Peter's Square in the middle of Vatican looks like an oval! Really – it should be either a square or an oval!

When we were in northern New Hampshire visiting my aunt Maddie, we drove around the area a lot. They do not have big cities there – just small towns. In the middle of every town there is a little green area with a gazebo. They call it “town square” – you should see those squares! None of them has four equal sides and four equal angles! Some look like triangles, some look like nothing at all. Why couldn't we have a better word for those open areas?

Do not feel confused just yet, as my Grandpa Andrew is says – you should hear how he uses the word “square.” He probably just loves the word and feels bored without it.

Grandpa Andrew used to work as an engineer. Now that he is retired, he is constantly building something. His favorite material is wood. He says he loves it when his favorite namesake (that would be me!) helps him. Last weekend Grandpa climbed up on his new woodshed I was on the ground giving him tools, as he asked. When Grandpa asked me to give him a square, I was puzzled: there were different tools on the board in front of me, but I could not find a square. Grandpa said: “look to the right of the screwdriver”. I did, but there was not square there – just a triangle. Grandpa pointed at it and said: “yes, this is the square.” I said: “No, this is not a square – this is a triangle. It might have one right angle, but it definitely does not make it a square, which should have four right angles and four equal sides.” Grandpa laughed and said “go pound sand, square biscuit.” He always says this when he thinks I do not understand him on purpose. Sometimes I do that, but not this time. He really called a triangle a square, and it does not make sense...

When we came home, I ran to the kitchen to get a chocolate chip cookie, but my grandpa said: “wait with the sweets – first have a square meal.” This was too many squares for one day. So I protested – how the meal can be square if the plate is round and the food on the plate is not even flat? Only a flat figure can be a square!

I guess I was lucky there was no baseball game that day on TV. When grandpa's team wins he says: “we squared our shoulders and beat them fair and square” ...