
Subject: Need Simple 3D Ruler Segments Designed for Shapeways
Posted by [lastspartacus](#) on Sat, 13 Oct 2012 22:39:19 GMT
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I have been trying to design and cast a segmented ruler idea for a naval board game to simulate different degrees certain ships are able to turn at. The segments linked together should provide what I am looking for. I'm in over my head with the precision and exactness required, and I have decided to see if I can get the thing off of Shapeways, but I need the file. Three relatively simple and flat pieces are what I need, essentially.

Here is a rough outline of the basic idea of the ruler, along with the friend-suggested formula in red that I should use to get the degrees I want, though those aren't quite the shape I'm looking for. Pay attention to the example on the right, it will look like that but with a 90 degree angle rather than 120 on the upper 'neck'.

<http://boardgamegeek.com/image/1438377/blaecblaed>

I am open to suggestion for those more talented and skilled in design and geometry, but here are the current specs:

The upper 'neck' should be at a 90 degree angle to the center of the upper circle. The lower 'collar' should be 130 degrees. If I'm doing my math right, that leaves 40 degrees of movement, or 20 degrees to each side from the straight ahead position of each ruler segment, which is what I want to achieve.

The upper circle should have a hole in its center big enough to fit wire through, as well a similar hole above the 'collar'. This is the only thing I can think of to hold the pieces together. Hoping someone more creative can think of other ways to make it stay together.

It will all form one 12" ruler in the end, so the length will need to be exactly 1" from where the 90 degree 'neck' begins from the body to the beginning of the next segment 'neck'.

The starting segment will lack the 'collar' at the bottom and be simply straight across, 1" from the bottom to the start of the 'neck'. The end segment will lack the 'neck', being straight across. All pieced together this should form a bendable rectangular 12" ruler.

The width of each segment should be around 1/2". The thickness should be 2 millimeters or so, any thinner and it may be easily breakable. Actually I'm not familiar with the type of plastic used by Shapeways so again, I'm open to suggestion.

That's about it. Contact me with a quote and/or suggestions if you can think of a way to improve the design. Big bonus points if anyone can think of a better method of holding all the joints

together without relying on wire ties. I would also like to know if it is possible to have 'notches' on the design so I won't have to draw on it with a marker to denote inches and turn levels.

Subject: Re: Need Simple 3D Ruler Segments Designed for Shapeways
Posted by [JACANT](#) on Sun, 14 Oct 2012 12:24:57 GMT
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