Uncle Nick's Powder Baffle Templates

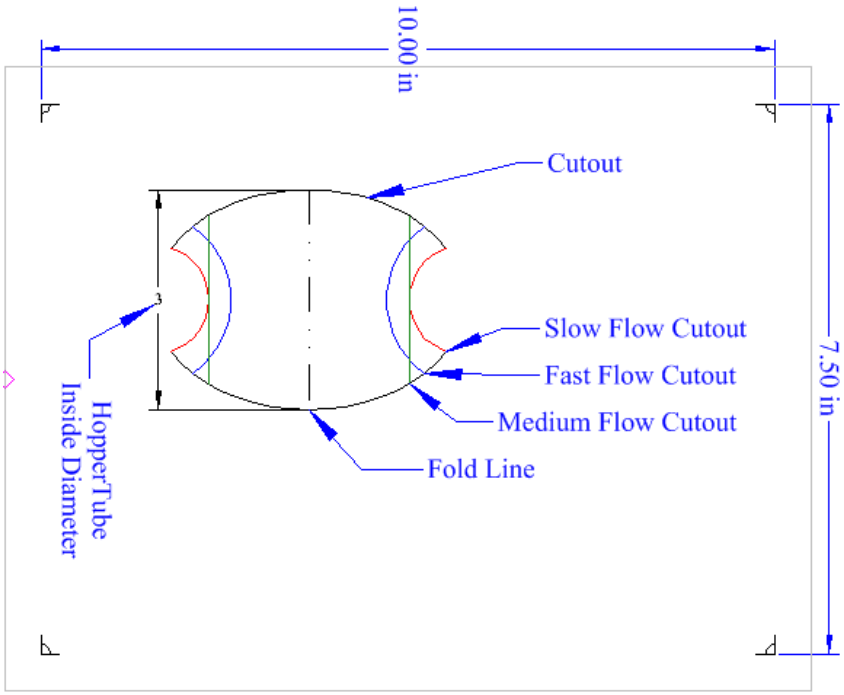
Our Slogan: *"Are you baffled?"*

The powder baffle templates that accompany these instructions are for tubes with inside diameters ranging from 1 inch to 3 inches. Each template is marked with the inside diameter of the tube it is intended for. Basically, you glue one of these templates to the sheet material you intend to make the baffle from, cut it out around the chosen profile, fold it 90°, then place it in the powder hopper with the edge of the bend top and center.

Explicit Instructions

Printing the templates

Find the template PDF page that includes the size you need. Print the page on standard paper in 1:1 size. Some printers are more accurate than others, so you may need to adjust your printer settings to correct errors. You may need to use printing properties or settings to turn off an automatic fit-to-page setting, and manually set the scale to 100%. You may have to adjust the margins to their minimum. They must be less than or equal to ½" along top, bottom, and sides for these pages to print completely. You will be able to check the size of your print easily. Each page has four corner marks at the ½" margins. The outside corners of these marks should be 7 ½ inches across the top and 10 inches top to bottom in a correctly sized print. Remember the baffle templates are sized to fit the inside diameter of the powder hopper, so if you have to settle for a print that is slightly off, err on the small side.



Printing Dimension Reference Points

So, now what do I do with this printed piece of paper?

Cut out the particular template size you need. Obtain some spray adhesive. Don't use water-base glue because it will swell and distort the paper. Lowe's carries 3M's spray adhesive, which is a good solvent-based latex, but expensive. A no-name brand should be fine as long as it isn't water-base.

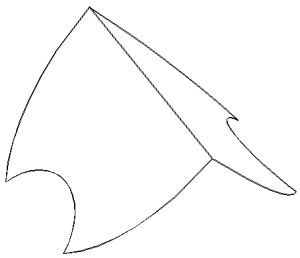
Obtain the material to make the baffle from. I recommend the very thin aluminum (0.01" thick) sold at Lowe's and Home Depot as roof "flashing". You will have to buy a lifetime supply (several feet), but this is thin and easy to cut, and being metal it will have no static electricity problems. Another easy-to-cut, but thicker material, is copper sheet sold by roofing material suppliers. Copper foil, sold by some crafts shops for hammering into molds, is thinner. Avoid cardboard or paper or other water retaining materials. You can also use sheet plastic. The cheapest will be the side of an old milk carton or plastic clamshell packaging, but you will want to treat plastic with an anti-static agent. An anti-static clothes dryer softener sheet is a good choice for wiping plastic down.

Identify something to cut the baffle out with. Sharp, straight-type sheet metal sheers will do well for the two metal materials mentioned. Scissors will work for plastic.

Put the paper template face-down on some old newspaper. Spray the back of it with the adhesive. After letting the adhesive dry until it is just tacky to the touch, press the sticky side of the template to your baffle material. Press it flat and let it sit for half an hour so you know it is too dry to gum up your cutters.

Use the printed outline of the template as a guide to cut out the baffle. You may want to cut to the inside of the printed outline so the baffle slides more easily into your powder hopper. If you want a really careful fit, cut the outline outside and try sliding the resulting flat ovoid sideways into the hopper to check its fit. If it is slightly large, trim the outline with a nail file or emery board until it goes in. The powder flow opening may be the round style or the straight cut. The sharp ends produced by the round cutout hang on to the sides of the hopper a little better, but are harder to cut.

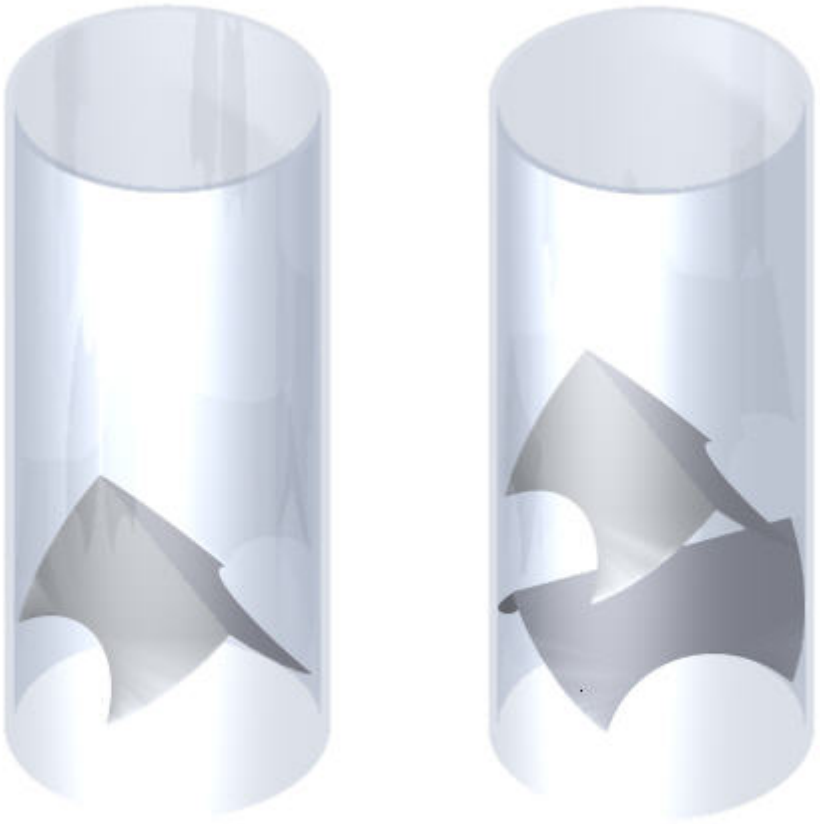
Now bend the baffle along the dotted and dashed line form a right angle. Laying the line along the edge of a 90° surface, like a table top, then bending it against the corner surfaces works well. After you've got a good edge or crease, it will slightly spring back. Let it. This gives you a little spring so the edges grab and stay in place inside the hopper.



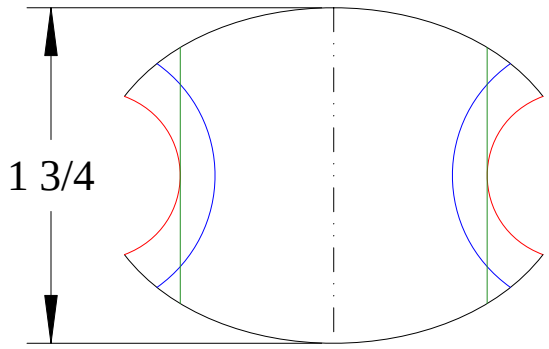
Peel off the paper and clean the surface up with Goo Gone or other adhesive remover. If you used plastic, Goo Gone is recommended because it won't attack plastics as Goof Off will. After it is dry, apply anti-stat if plastic is used, then pinch the baffle wings slightly to spring them inward to slide down the hopper, crease up. Let go. You are **done!**

How many?

How much a baffle helps your measure depends on how easily packed the powder is and on how it flows and how your measure is constructed. Baffles reduce the varying weight of the powder column over the entrance to the measure as you use it up. They do this by keeping the powder above the measure entry fairly constant. It isn't perfect, however, and the level under the baffle can still vary a bit with powder column height. If your measure and powder are sensitive to powder column height, or if you use the faster flowing template opening, a second, upper buffering baffle, with its openings perpendicular to the lower baffle openings will improve column height regulation above the measure entry. You'll just have to experiment to see if it helps with your setup?



TIP: Run a container of powdered graphite through your measure before using it. This will lubricate the measure and give it some added anti-static protection.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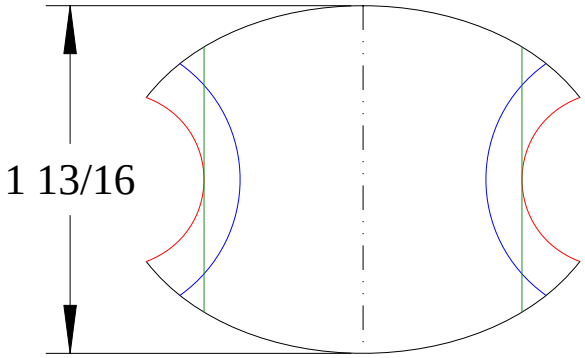
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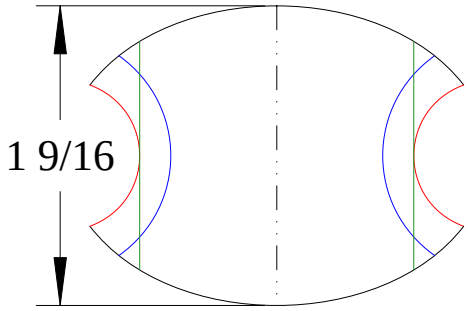
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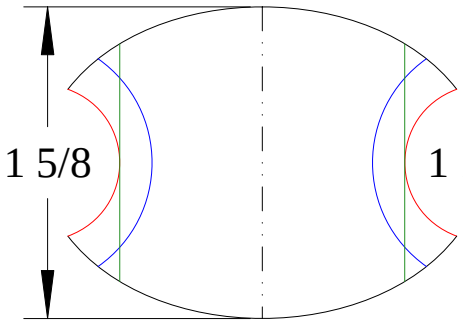
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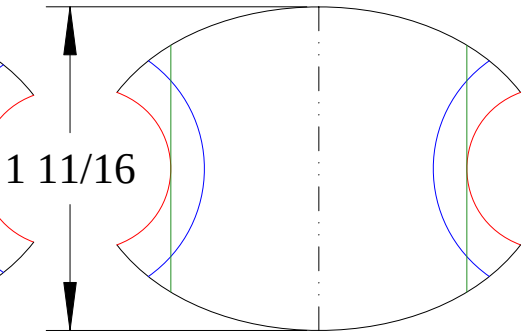
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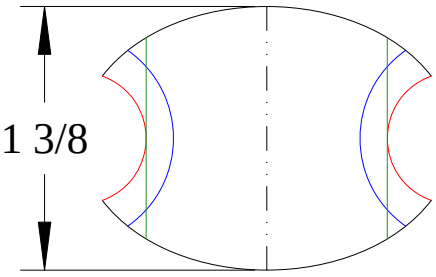
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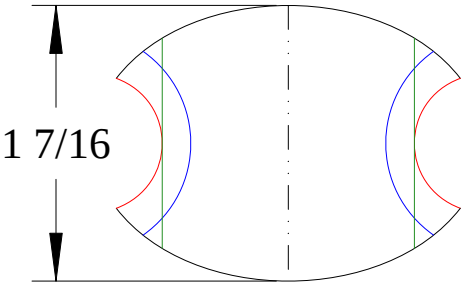
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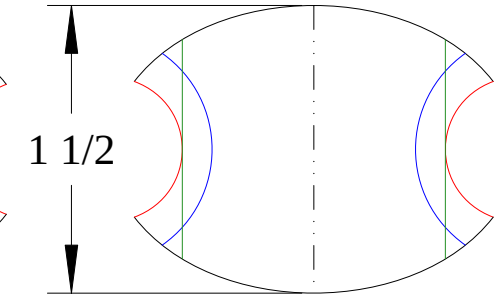
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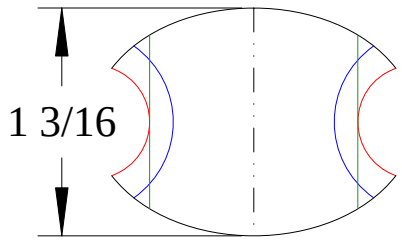
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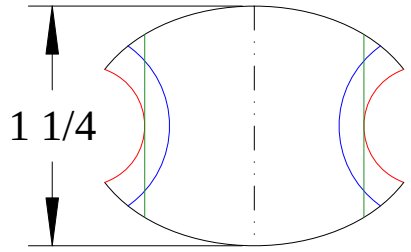
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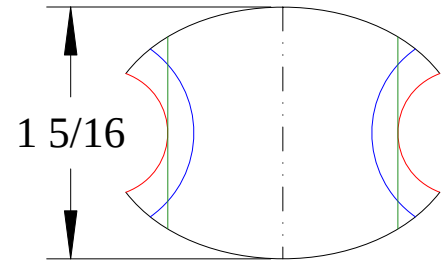
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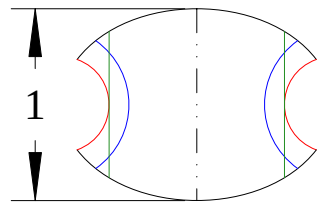
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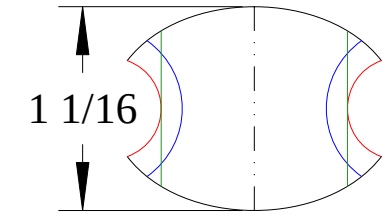
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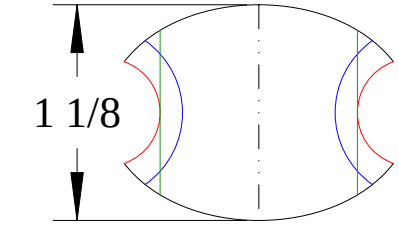
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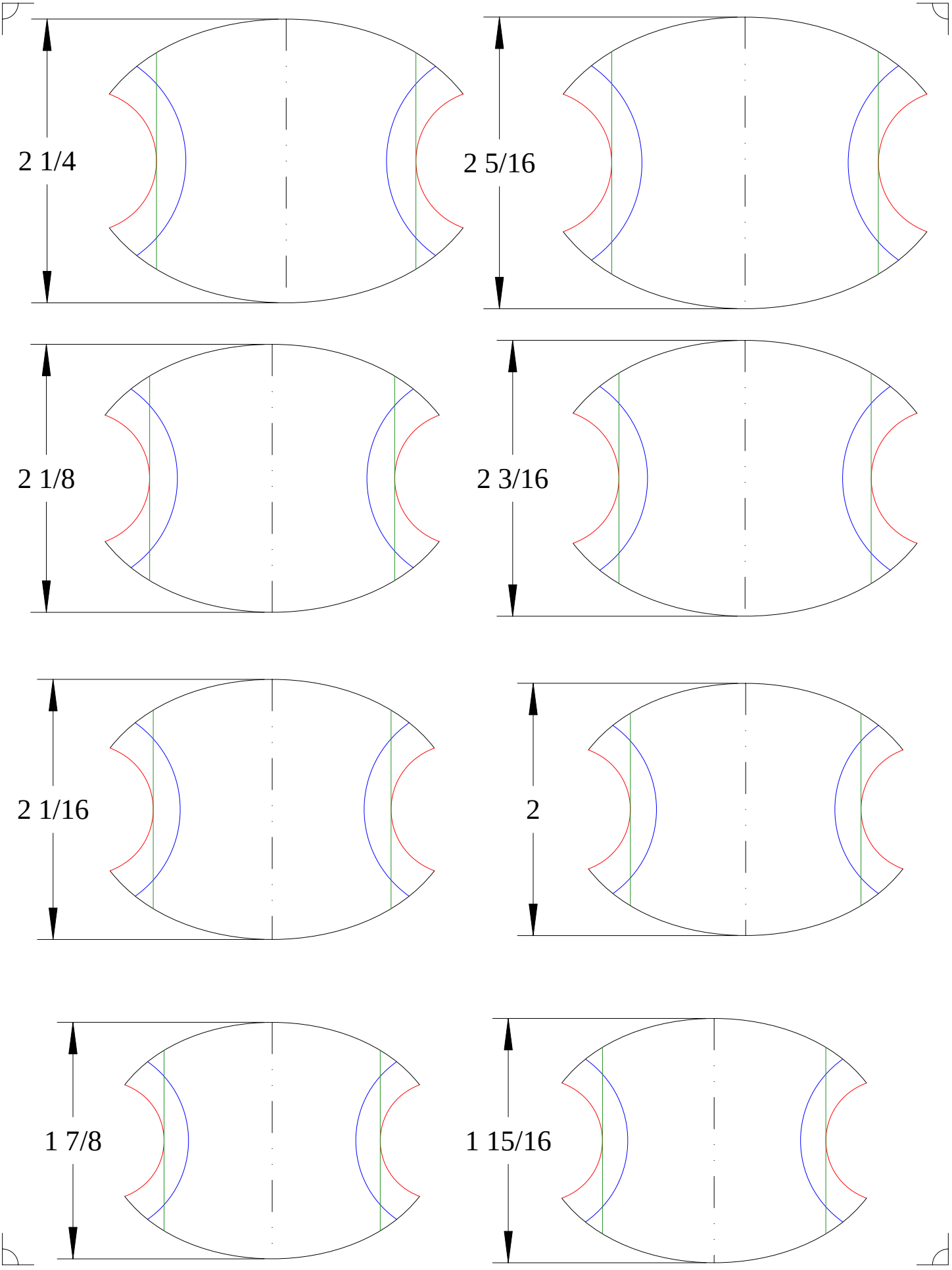
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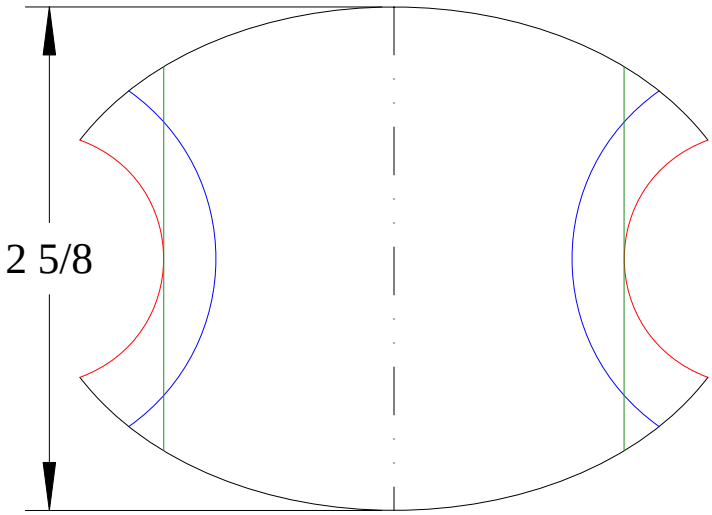
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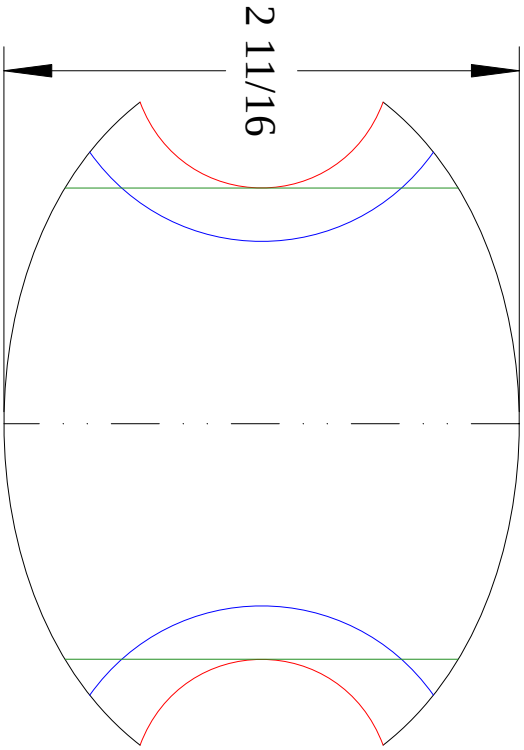
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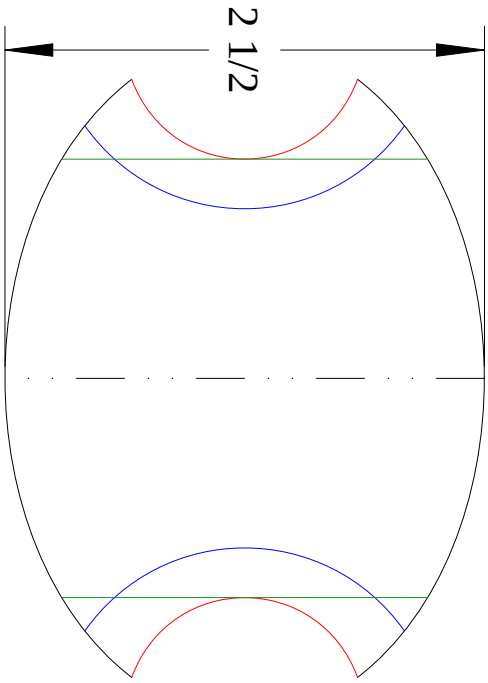
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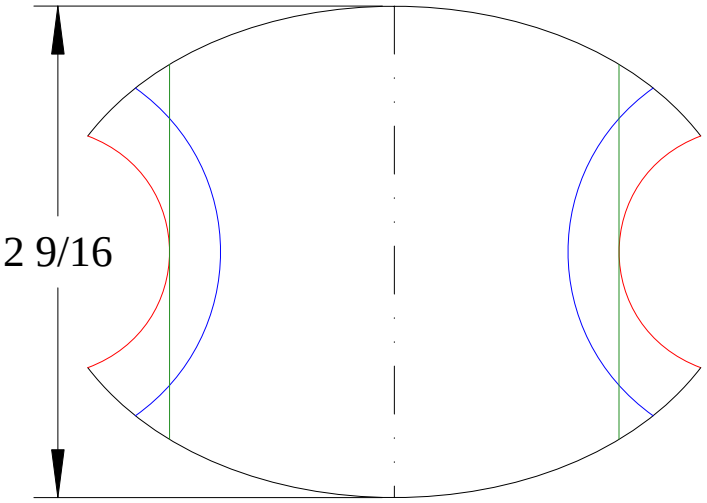
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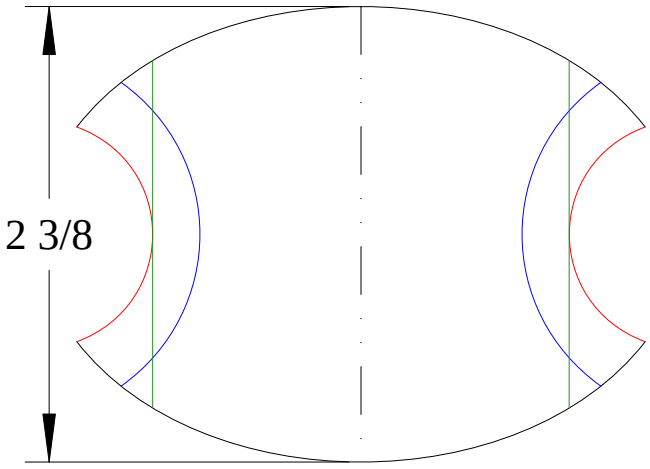
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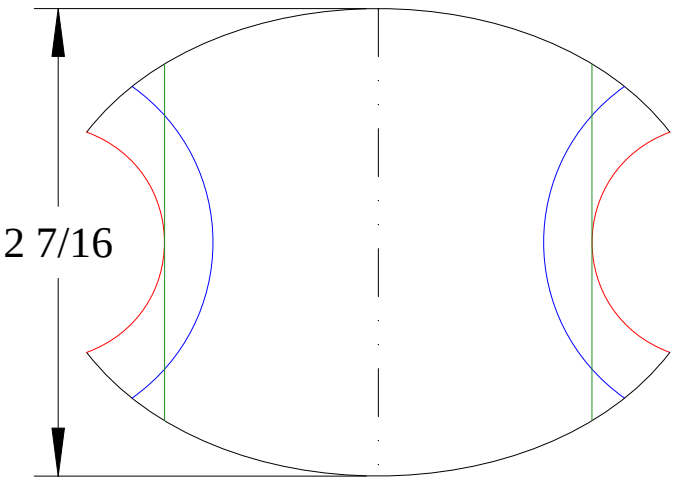
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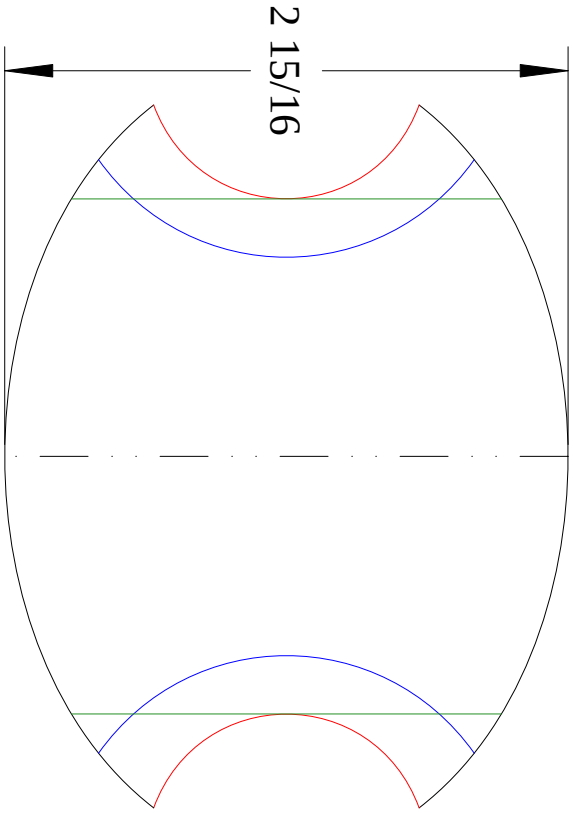
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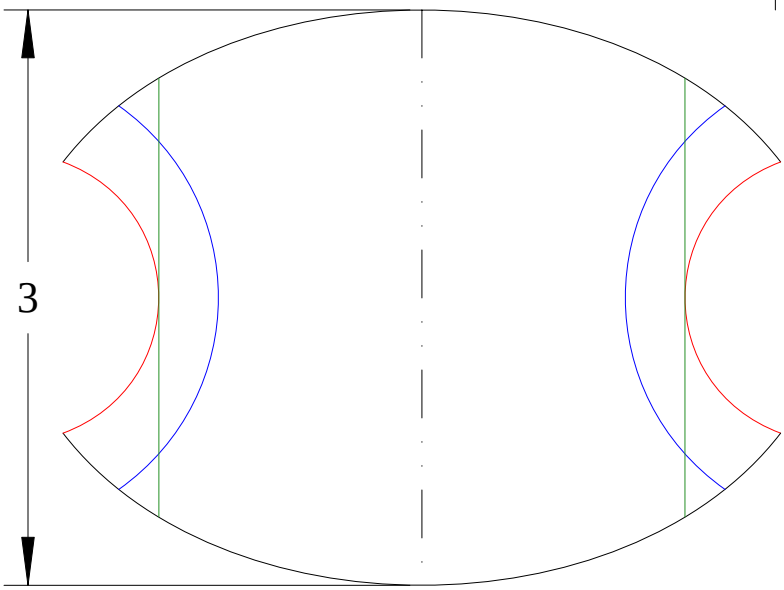
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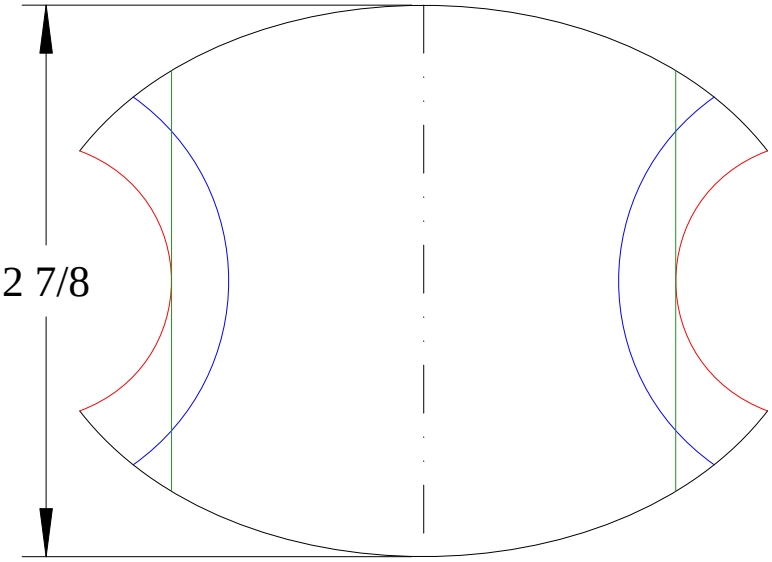
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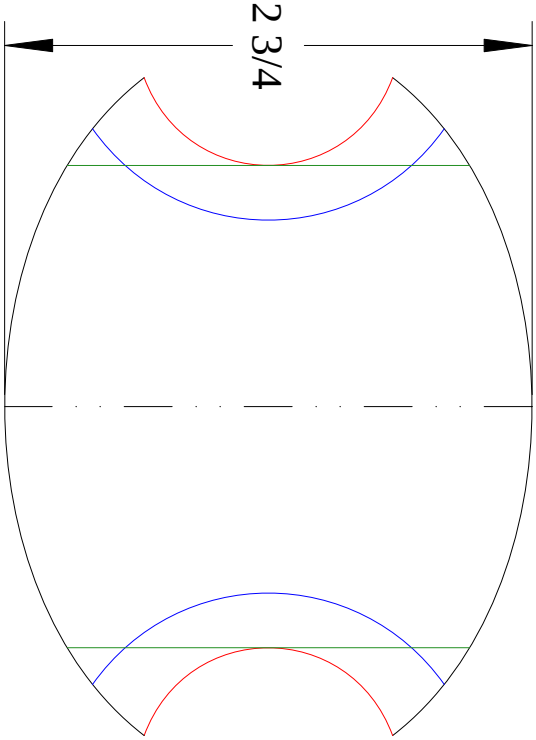
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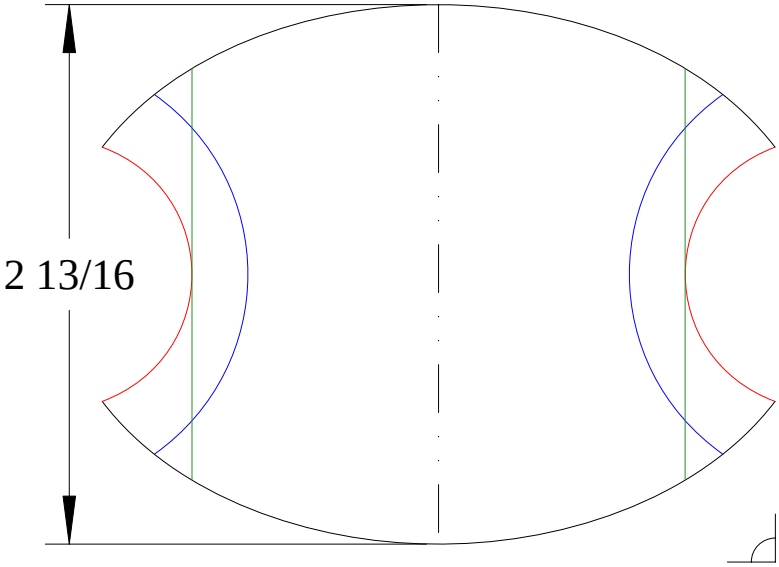
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