DaVinci-O-Matic

by **whitbysolo** on May 15, 2016

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Intro: DaVinci-O-Matic

Make anything more interesting and exciting with the **DaVinci-O-Matic**.

Step 1: Vetruvian Man is Everywhere

The classic guy/gal in the circle/square is EVERYWHERE.

Now you can get yourself in the picture, or any object you choose.

Step 2: What you need

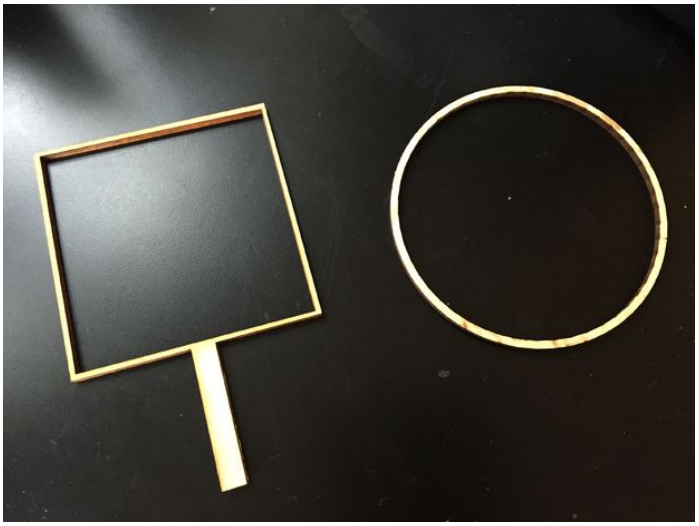
Laser cutter, wood, and CAD software

or

1/2" by 1/4" steel bar stock, and 1/4" square steel stock and a metal shop

or

Pipe cleaners



Step 3: The secret to the DaVinci-O-Matic...

Is the relationship between the circle in the square.

The **SQUARE** shows how a person's height is about the same as their wingspan.

The **CIRCLE** is centered on a person's bellybutton.

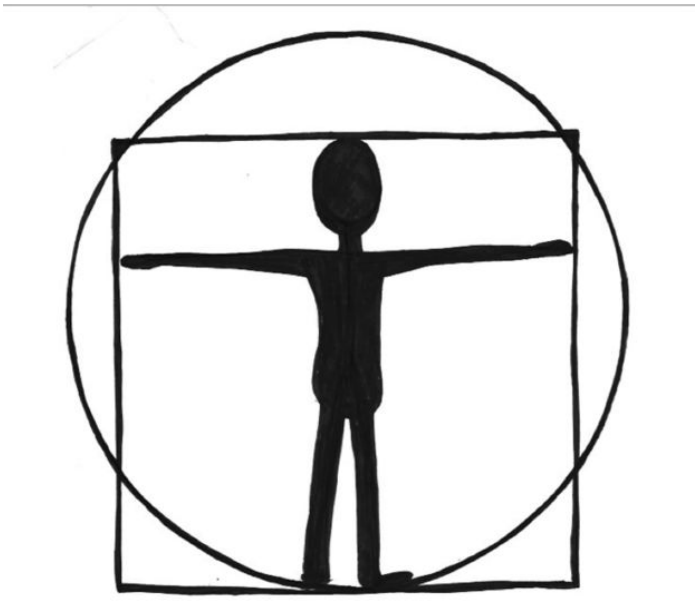
Here is the interesting bit,

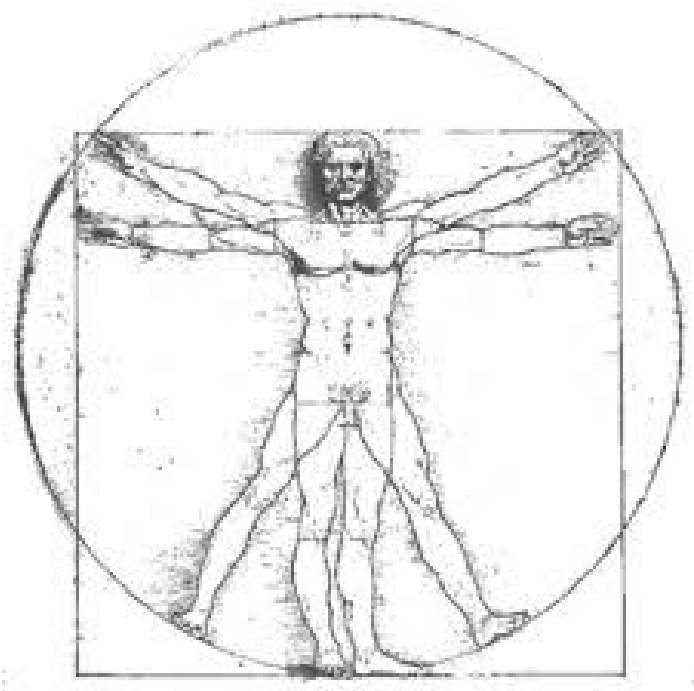
If you divide your **height** by the **distance from the floor to your belly button**, you will get a ratio about of about 1.618 which is just about the GOLDEN RATIO 1.618033...

So the radius of the circle is a Golden Ratio proportion to the side of the square.

But all you need to know is this:

- **Make your circle first, regardless of the material.**
- **Measure the diameter, then divide by 2 for the radius.**
- **Multiply the radius by 1.618 to get the side length you need for the square.**



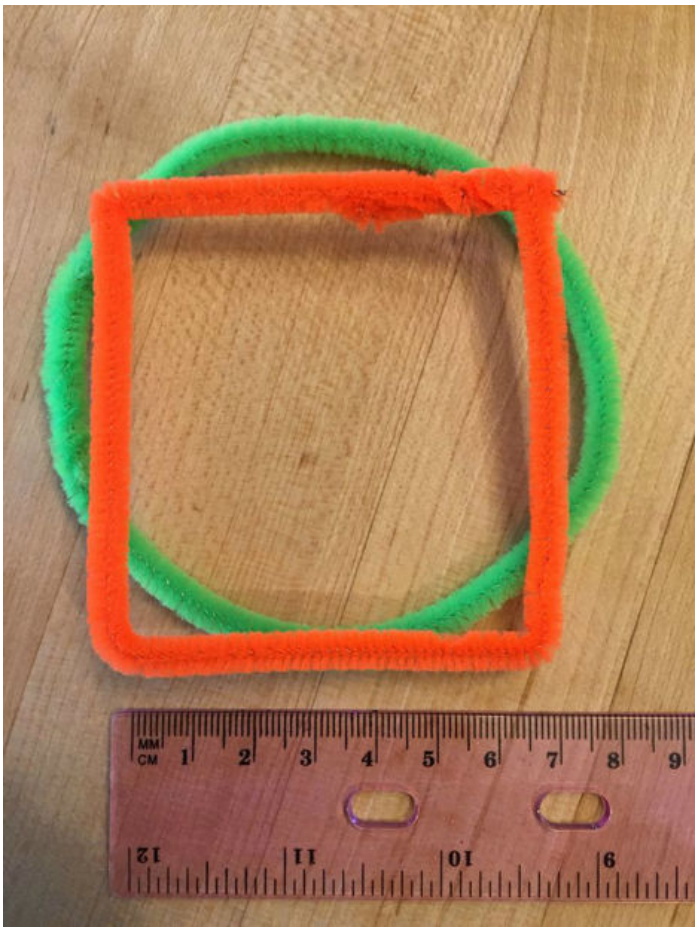


Step 4: For example with pipe cleaners

Make a circle any size with pipe cleaner.

- Measure the diameter - here it is 8.5 cm.
- Divide in half to get the radius, 4.25 cm.
- Multiply by 1.618 to get about 6.9 cm for the side of the square.

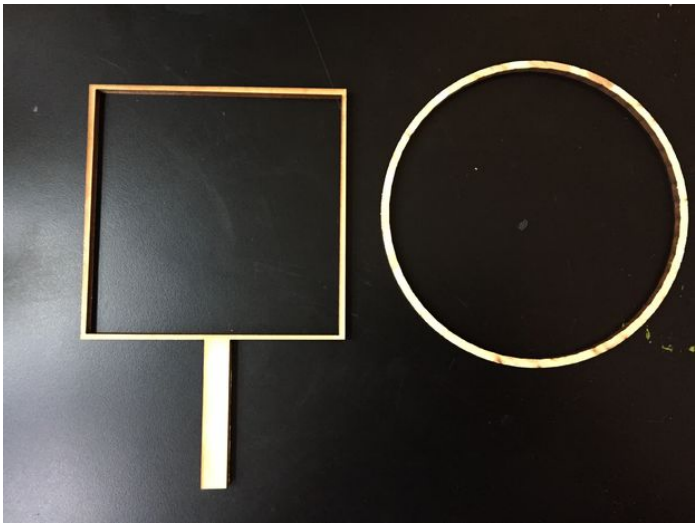
(Notice you can make the square first, then divide the side length by 1.618 to get the radius, BUT with most materials it's much tricker to make a circle of a certain radius than the side of a square. And nobody likes division.)



Step 5: Make pieces to laser cut

Using a CAD program to design your **DaVinci-O-Matic** is a breeze.

Just chose 6.18 inches to be the radius, and the side of the square will be 10 inches!



Step 6: Design the circle

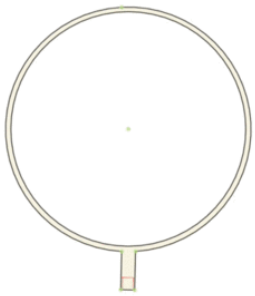
I am using the Zotebook app to design, you can use any CAD program.

I am setting the radius of circle to 6.18 inches.

Step 7: Add the handle

Step 8: Add the square

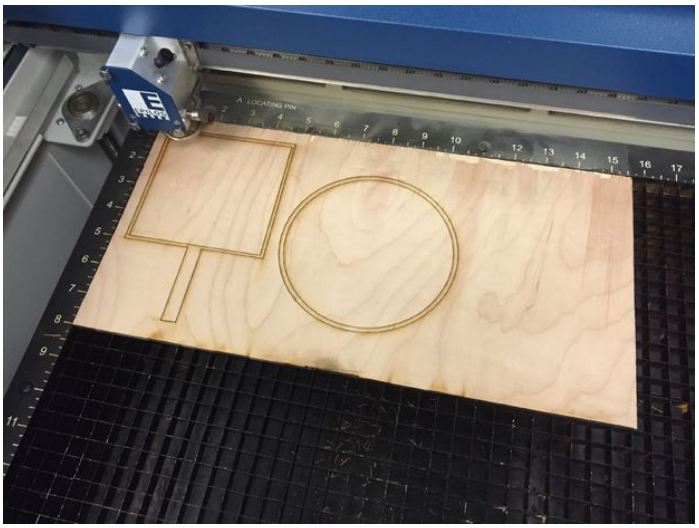
The square is 10 inches.



Step 9: Laser cut and assemble

I just used a dab off glue.

You can make this all one piece, but it has more depth as 2 pieces.



Step 10: Ready for Action

The **DaVinci-O-Matic** is ready for action.

To **DaVinci-O-Matic-ify** your friends, hold the device and ask your friend to stand back until you can see them in the square. You will need to get low for best results. You will want to center the camera on the belly button.

- Take one photo with arms and feet straight.
- Then another with arms and feet outstretched.

Also, now anything you photograph thru the DaVinci-O-Matic will look interesting and important, even this rice cooker.


ALASKA


ALASKA


ALASKA

Step 11: If you have a blacksmith shop in your backyard...

You can make a version in steel as yard art.

Again, roll the circle first, then make the square, and weld together.

Step 12: Or a terrific exhibit for your math park.

This is Geometry Point at Romero Park, Lafayette Colorado.

For best results, the camera should be lower than you expect, centered on the belly button.

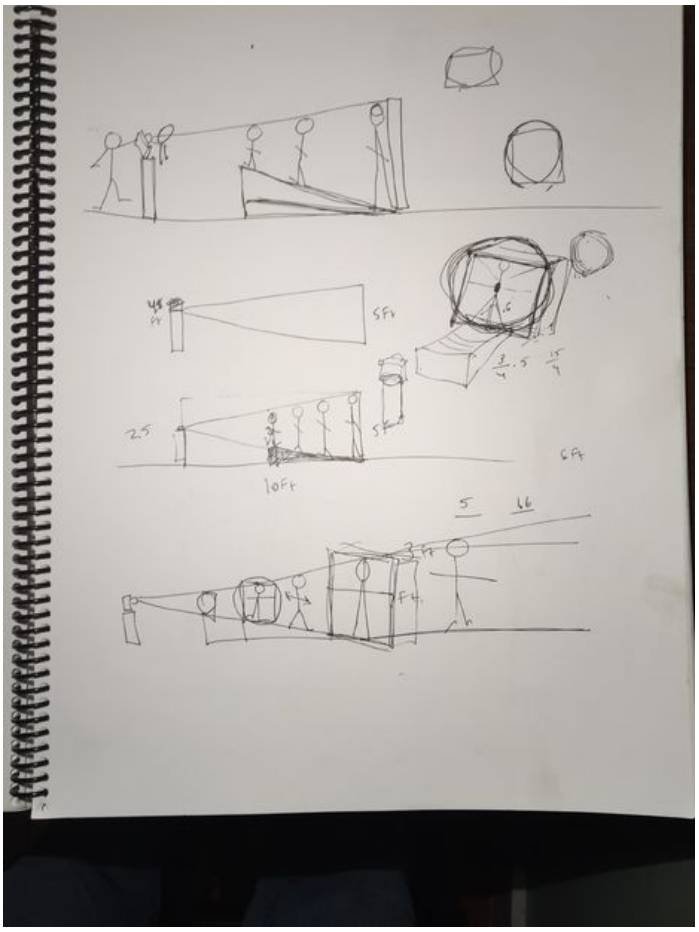
Step 13: The original design was more complicated than the DaVinci-O-Matic

Geometry Point needed a Vetruvian exhibit. I started off designing a large scale circle and square, and imagined a ramp, and scaled positioning...

The design was getting complicated when I realized I could just make a simple square/circle device and visitors could just position themselves.

And the **DaVinci-O-Matic** was born!

Enjoy.



Step 14: For more information:

The Vetruvian Man:

Zotebook:

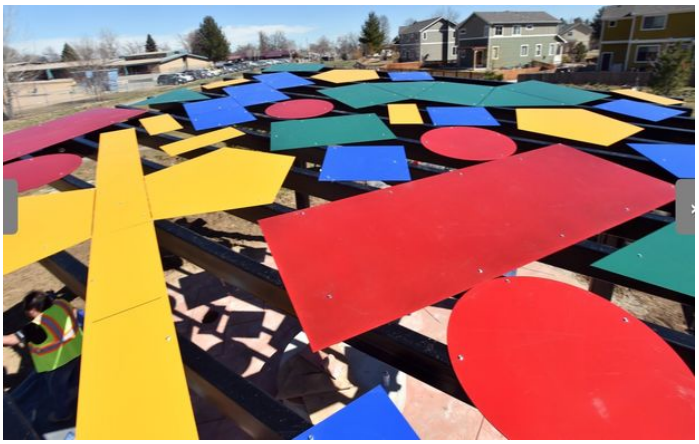
www.zotebook.io

Geometry Point Lafayette:

https://www.facebook.com/Geometry-Point-9827540051...

Request custom yard art from:

https://www.facebook.com/bethstademetalarts/



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