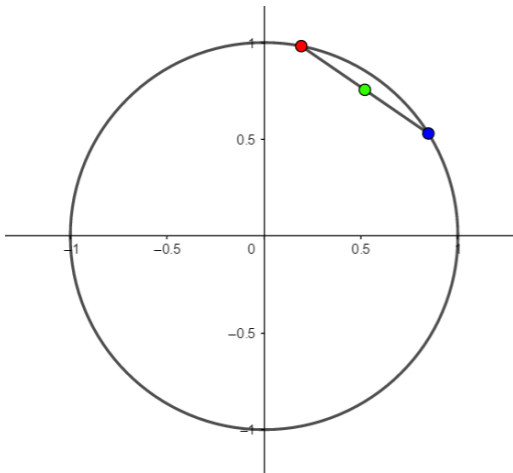


Spinning points

Investigation 1


Imagine two points spinning round a circle at the same speed.


Now imagine their midpoint. What shape would the midpoint trace out at the points spin round?
Does it make a difference where the first two points start?



On Geogebra


Right click anywhere on the grid and select Grid. This will hide the grid.

Use the circle with centre through point tool  to plot a circle, centre (0,0), that goes through (1,0).

Use the point on object tool  to plot two new points on the circle, C and D.

Use the midpoint tool  to find the midpoint of C and D.

Right click on the midpoint E and select "Show trace". Now rightclick on C and click "Animation" and do the same for D.

You should now be able to see the path traced out by E. Was it what you thought? Try pausing the animation using the little icon at the bottom left of your screen .

If you move points C and D closer together to start with do you think the trace will change?

Move points C and D and then start the animation again to see if you are right.

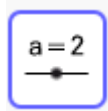
Investigation 2

What would the trace of the midpoint look like if one of the points was spinning faster than the other?

Right click on point D and click on Settings. Click on the Algebra tab and change the speed to 2.

Before you press play to animate, make a guess as to what the trace will look like.

Explore different values for the speed, trying to guess in advance why the traces look like they do.



You could use the slider tool to create a slider a , that has Min 1 and Max 5. Then right click on point D and change the speed to " a ". Then when you move the slider, you will vary the speed.