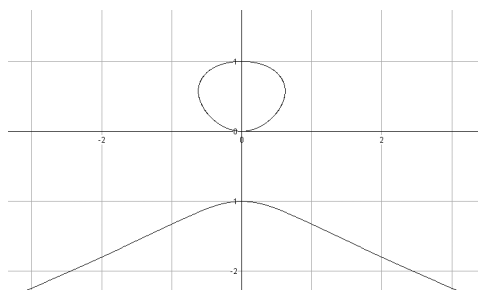


Questions Pupils Ask!

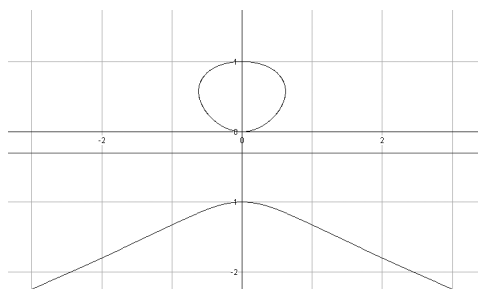
Introducing ... Maths-man! (or The Importance of Messing Around)

by Colin Foster

Working on implicit differentiation with my Year 13 class had led us to draw graphs like $y = x^2 + y^2$ on a computer graph-drawing program when a student asked what $y = x^3 + y^3$ would look like. As I hadn't the foggiest idea, I typed it in. We were pretty surprised, and tried a few more. When we got to $y = x^2 + y^3$ someone cried out, "It's a person!"



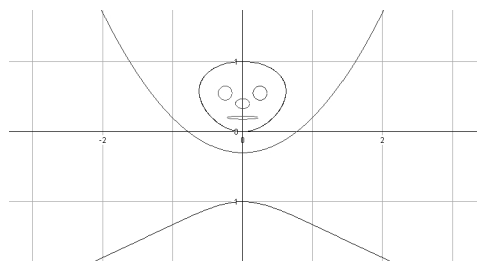
We had to admit there was a distinct resemblance. "But it's got no arms!"



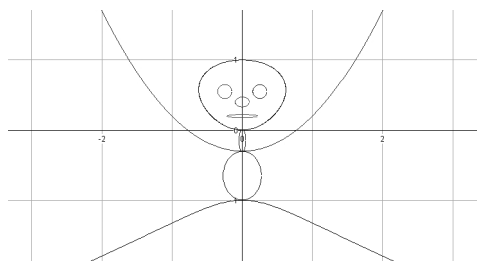
Adding $y = -0.3$ fixed that, but we couldn't find a way of limiting their length.

Someone suggested a parabola instead, and after a bit of tweaking ("How can we make the arms go out a bit?") we settled on $y = 0.5x^2 - 0.3$.

Eyes, nose and mouth gave us opportunity to review equations of circles / ellipses, and pretty soon we had the amiable fellow at the top of the next column.



In a spare moment later, I "filled him out" a little, and now he stares down at us from his position on the wall!



A bit silly? Yes. A waste of time? I think not.

Sometimes it's important to mess around. 

Note

Some versions of graph-plotting software will give only the right-hand portion ($x > 0$) initially, and a separate equation has to be constructed to produce the remainder.

Keywords: Questions.

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