

HOMEWORK 1

MATH 243

8.1.44

(a). Do this part by hand, expressing your answer in terms of the constants a , b , and c .

Some Calculus I/II classes don't cover the hyperbolic sine and cosine functions. If that's the case:

- The hyperbolic sine and cosine functions sound way scarier than they are. They're easier than the regular sine and cosine functions.
- Your textbook, Wikipedia, your friends, and office hours are all good resources for learning everything about them.
- You don't need to learn everything about them to solve this problem. Three relevant facts are all you need.

(b). You can use a calculator or a computer for this part. You'll need it throughout. Once you get your answer, put it in context.

10.1.43

Maria Agnesi wrote the first calculus textbook, published in 1748. She picked this curve to use as one of the examples in her book, and her name has stuck with it ever since.

Include the diagram given in the problem in your solution. You may want to add some more labels to the diagram so that you can refer to them in your explanation of the parametric equations. As before, make sure that your sketch of the witch demonstrates your ability to sketch it without a computer, but do use a calculator/internet to check your work.