

Mathematics 122 Homework #3

We are now to the point where we will be using the graphing calculators regularly. I will start having questions on the quizzes that require the calculator so you should bring your calculator to class.

1. Use the graphing utility of your calculator to do the following (all answers should be in the form of a complete sentence):

- (a) Find the solution to $x^3 + 2x - 1 = 0$ between 0 and 1 accurate to two decimal places. (Here, and the following problem, the answer should be worked as “I graphed the function ____ between $x =$ ____ and $x =$ ____ and saw that the solution was ____.”)

- (b) A certain product has supply function

$$S(p) = 5 + \frac{p^2}{5000}$$

as a function of price p . The demand function for the same product is

$$D(p) = 30 - \frac{p^3}{100(1 + p^2)}.$$

Find the equilibrium price for this product. (Recall that supply and demand curves are covered on pages 13–14 of the text. While the basic idea behind this problem is simple, it may take a little time find a window that shows where the two curves cross.)

2. Page 45 #16
3. Page 46 #19 (Read about the effect of taxes on equilibrium on pages 40–41.)