

8. (10 points) You have given up on your lemonade stand after your cousin ran it into the ground. However, you still need to make some money over the summer so you decide to tutor local high school students in mathematics. You start off charging \$45 per hour. Only 2 students are willing to pay this rate for your expert knowledge. However, you find that for each \$3 less per hour that you charge, 1 more student is willing to sign up for tutoring. You decide you can tutor for a maximum of 15 hours per week, that you will meet with each student one hour per week, and that you will only tutor one student at a time. What should you charge if making the most money per week is your only goal? In order to get full credit, you must use the techniques of calculus to solve this problem and show all of your work!