MATH 122: Calculus II

Some Hints and Answers for Assignment 2

I: Measuring Inequality: 5, 6

Exercise 5: (a) $p = 7$
(b) About 24 percent.

Exercise 6: The Gini Index for one society is 1/4 and for the other is 3/8. In both societies, the richest half of the nation owns 3/4 of the resources.

Exercise 4: (a) You will need to solve algebraically an equation of the form

II: Problems from Page 242: Remember the Chain Rule

Exercise 2: Rationalize the Numerator

Exercise 9: $G'(x) = -144x(3x^2 - 1)^{-5}$

Exercise 21: $f'(x) = 12x + 5x^{-2} - \frac{4}{3}x^{-5/3}$

Exercise 33: $g'(r) = \frac{-\sin 2r}{\sqrt{1+\cos 2r}}$

Exercise 46 : Some possible correct answers are $\frac{1}{(\cos\phi - \sin\phi)^2}$ and $\frac{1}{1-2\sin\phi}$

Exercise 52: $y' = \frac{6x-y^2}{2xy+y^{-2}}$. [See Section 2.6 on *Implicit Differentiation*]

Exercise 64: Recall lines are parallel if their slopes are equal. $x = -4/3$ and $x = 2$.

Exercise 80: At every instant of time t, the distance $D(t)$ between the cars satisfies $D(t) = x(t)^2 + y(t)^2$. Set up a coordinate system so that the origin is the point of intersection. [See Section 2.7 on *Related Rates*]