

Math 162**Quiz 10**

Show all work in a neat and organized fashion. Clearly indicate your answers.
10 points possible.

Use correct units!!

1. (4 pts.) The table below gives average yearly fuel consumption per car in the United States from 1980 through 1990.

Year	Fuel consumption (gallons/car)
1980	591
1981	576
1982	566
1983	533
1984	536
1985	525
1986	526
1987	514
1988	509
1989	509
1990	505

(a) Fit a quadratic model to the data.

(b) Write the rate-of-change formula for this model.

(c) Find the rate of change of fuel consumption in 1983.

2. (6 pts.) Find the derivative formula for each function. You do not have to simplify your answers.

(a) $y = (x^3 + 7x + 9)(3.456)^x$

(b) $y = (x^7 + x)^3(x^4 - 3)^5$