Math	1030	Workshop	#6 (	June	18.	2009)	
MIGGII	1000	4401 KSHOP	#-U 1	June	10,	<b>2</b> 000)	

Name:

## DUE: Wednesday, June 23<sup>rd</sup> Please turn in a paper copy and SHOW YOUR WORK!

1. We are selling an item and have found that point elasticity is  $\varepsilon = 1.25$  when selling a particular quantity at a particular price. Suppose that this quantity is decreased by 6%.

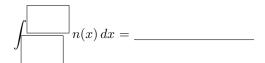
Then the price INCREASES / DECREASES by \_\_\_\_\_\_\_ % (percent) and revenue INCREASES / DECREASES by \_\_\_\_\_\_ % (percent). Show your work:

2. Stan wants to find how much kerosene is left in his tank. His tank is 5 feet long and the end of his tank is elliptically shaped. This shape is described by the formula:  $\frac{x^2}{2^2} + \frac{y^2}{1^2} = 1$ . If Stan lowers his dipstick (in the middle of the tank) and it shows that kerosene is half a foot deep. About how much kerosene (in cubic feet) is left? Use Simpson's Rule with n = 6. Then convert your answer to gallons (use Alpha).

Show your work:

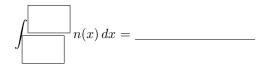
3.	The size of houses in Nowheresville, NC are normally distributed with a mean of 1500 s	square f	feet	and
	a standard deviation of 250 square feet.			

(a) What is the probability a randomly chosen house in Nowheresville is between 1000 and 1200 square feet in size?



(b) If Nowheresville has 500 homes, how many of them are bigger than 2000 square feet?

There are \_\_\_\_\_ houses bigger than 2000 square feet in size. The following integral helped me find my answer:



(c) What range (in square feet) will capture the middle 35% of houses in Nowheresville?

35% of houses in Nowheresville have sizes from \_\_\_\_\_ square feet to \_\_\_\_\_ square feet. [Your answer should be centered around the mean of 1500 square feet.]

Show your work: