

Name: _____

Math 1030 Quiz #5 (July 30st, 2013)

You may **skip ONE** of the following problems.

1. We have the following supply and demand functions:

$$p_s(x) = 20e^{x/10}$$

and

$$p_d(x) = -x^2 + 500.$$

Market equilibrium $(q_E, p_E) =$ _____

The consumer surplus is \$ _____

The producer surplus is \$ _____

I used the following ALPHA commands...

2. Whipple County has determined that their Lorentz curve is given by $L(x) = 0.5x^3 + 0.4x^2 + 0.1x$.

The poorest _____ percent of the population receives 25% of the income.

The poorest 25% percent of the population receives _____ of the income.

Whipple County's Gini Index is _____.

I used the following ALPHA commands...

3. We know that $P'(q) = -4q^3 + 300q^2 - 1400q - 2000$ for some profit function $P(q)$. In addition, we also know that $q = 15$ is a break even quantity for $P(q)$.

$P(q) =$ _____

I used the following ALPHA commands...