

Elasticity*Math 104 Section 106 - Oct 2012*

Group Names and Student Numbers (minimum of two names required for participation to be recorded):

1. _____ 2. _____ 3. _____

Wacky Incorporated has an unusual widget that satisfies the demand relationship

$$q = 100p^2e^{-p},$$

where q is the number of widgets demanded (in thousands) when the price is p dollars per unit. Recall that the price elasticity of demand is given by $E(p) = \frac{p}{q} \frac{dq}{dp}$.

(a) Find the price elasticity of demand $E(p)$ explicitly as a function of p .

- (b) For which values of price p will decreasing the price slightly result in an increase in revenue for the company?

Answer:

- (c) If the price is currently at \$10 and is dropping at a rate of 5% per year, at what percent rate per year is demand changing; in other words, what is the relative rate of change of demand under these conditions?

Answer: