

Question 1 will receive twice as much weight as question 2 in determining that grade on the problem set. (For clarity: question 1 determines 10 per cent of the course grade, question 2 determines 5 per cent of the course grade.)

1.

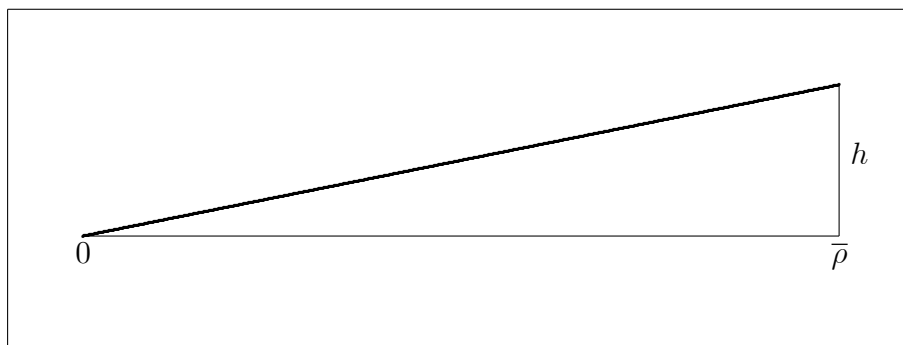


Figure 1: Triangular distribution of consumers' reservation prices.

The reservation prices of  $N$  consumers for a good are distributed over the range  $0 \leq \rho \leq \bar{\rho}$  according to the triangle density function shown in the figure.

The height of the triangle on its right side is  $h$ .

A consumer will buy 1 unit of the good if the consumer's reservation price  $\rho \geq p$ , where  $p$  is price.

Find the market demand and inverse demand equations.

Find the price elasticity of demand and the marginal revenue equation.

**Show the derivations of your answers. Correct answers without derivations will not receive credit.**

2. Based on the material in the Agriculture chapter in *The Structure of American Industry*, answer the following questions:

(a) in what ways are U.S. agricultural markets similar to the economic model of a perfectly competitive market?

(b) in what ways are U.S. agricultural markets different from the economic model of a perfectly competitive market?