

# Ec202 – Demand and Elasticity

## Practice problem

Given a demand model:

$$Q_X = 5 - 3P_X - .5P_Y + 2P_Z + .03M$$

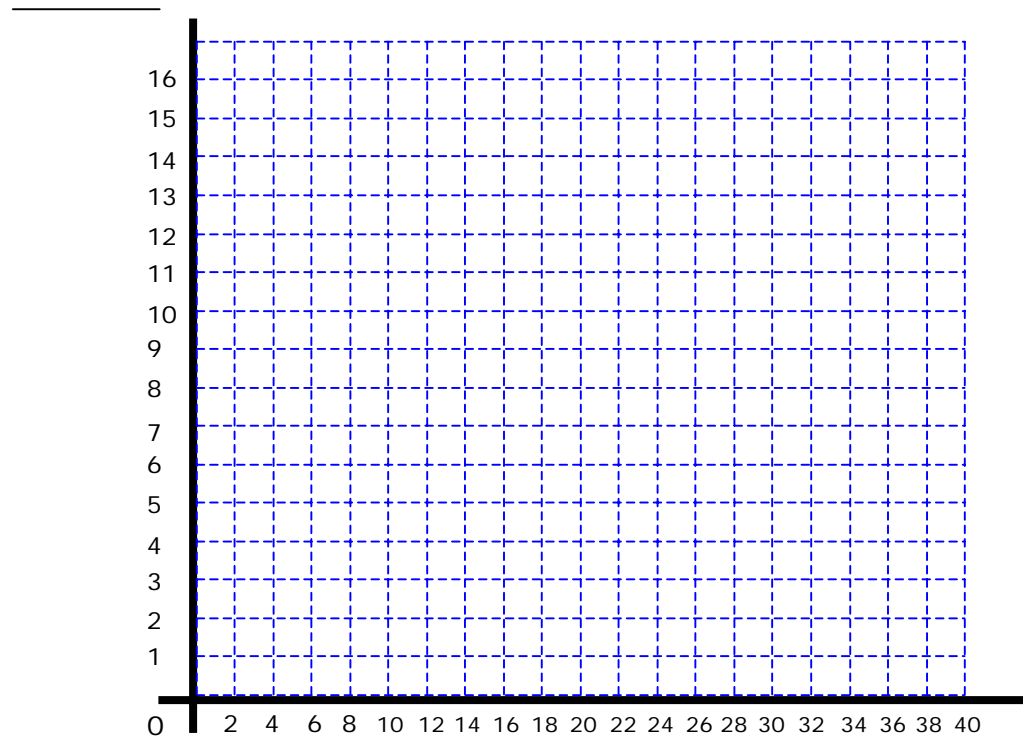
Where:

$P_Y = \$10$ , the price of good Y

$P_Z = \$5$ , the price of good Z

$M = \$1000$ , the income of the buyer

- 1) Calculate and graph the demand function for good X.



- 2) Calculate the price elasticity of demand when  $P_X = \$5$ .
- 3) Calculate the price elasticity of demand when  $P_X = \$9$ .
- 4) Identify and label the range on the demand function that is elastic. (inelastic).
- 5) At what price is demand unitarily elastic?
- 6) At what price (and quantity) will the TR be maximized given this demand?
- 7) Calculate the income elasticity of demand
- 8) Calculate the cross elasticity of demand of good X with respect to good Y.