

Methods for calculating percentage changes

“Normal” method:

$$(\% \Delta x) = \left(\frac{\text{New } x - \text{Old } x}{\text{Old } x} \right) \times 100$$

e.g. increase in x :

$$(\% \Delta Q_M) = \left(\frac{23 - 17}{17} \right) \times 100 = 35.3\%$$

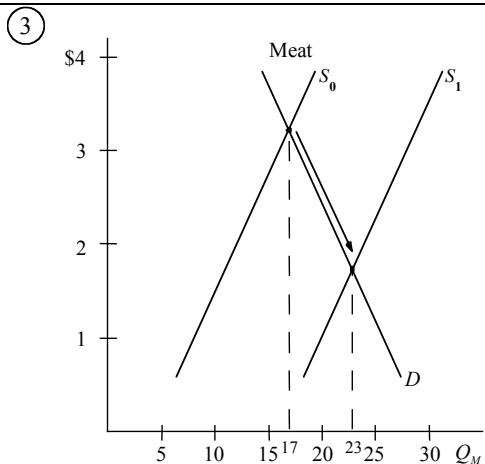
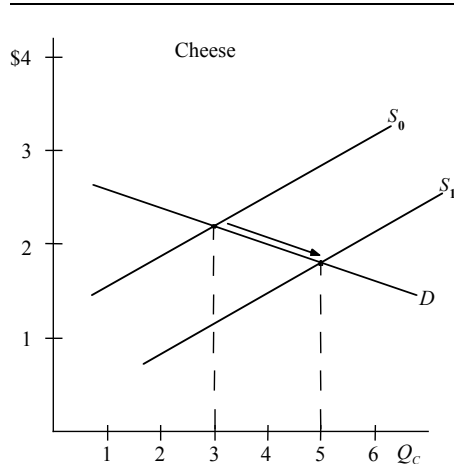
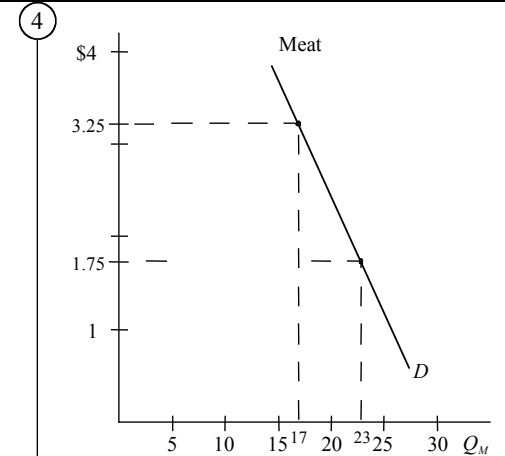
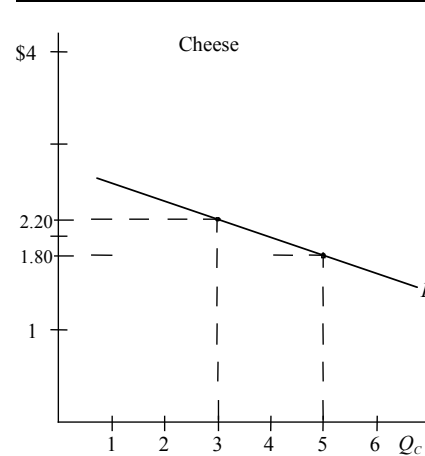
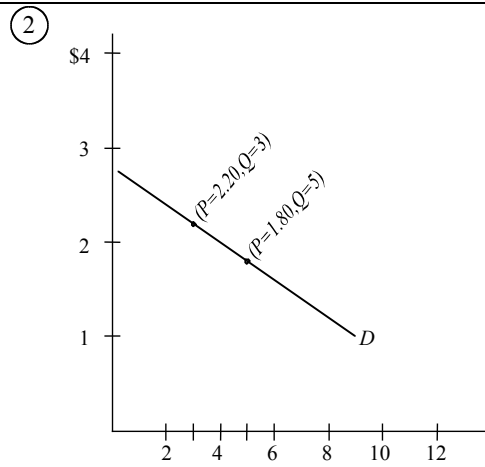
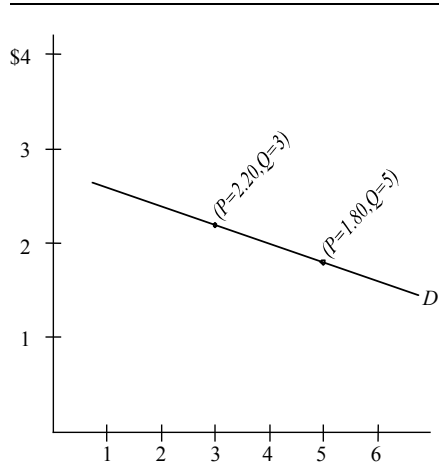
e.g. decrease in x :

$$(\% \Delta Q_M) = \left(\frac{17 - 23}{23} \right) \times 100 = -26.1\%$$

“Our” method (for microeconomics):

$$(\% \Delta x) = \left(\frac{\text{Larger } x - \text{Smaller } x}{\text{Average } x} \right) \times 100$$

e.g. $(\% \Delta Q_M) = \left(\frac{23 - 17}{20} \right) \times 100 = 30\%$



$$(\% \Delta Q_C) = \left(\frac{5 - 3}{4} \right) \times 100 = 50\%$$

$$(\% \Delta Q_M) = \left(\frac{23 - 17}{20} \right) \times 100 = 30\%$$

$$(\% \Delta P_C) = \left(\frac{2.20 - 1.80}{2.00} \right) \times 100 = 20\%$$

$$(\% \Delta P_M) = \left(\frac{3.25 - 1.75}{2.50} \right) \times 100 = 60\%$$

$$\eta_C = \left(\frac{\% \Delta Q_C}{\% \Delta P_C} \right) = \left(\frac{50}{20} \right) = 2.5$$

$$\eta_M = \left(\frac{\% \Delta Q_M}{\% \Delta P_M} \right) = \left(\frac{30}{60} \right) = .5$$

Elasticity of Demand for Cheese is 2.5

Elasticity of Demand for Meat is .5

Interpretation of $\eta_C = 2.5$:

For a typical 1% change in price, quantity demanded changes by 2.5%.

Interpretation of $\eta_M = .5$:

For a typical 1% change in price, quantity demanded changes by .5%.