Example 1. (Hughes-Hallett, 4e, 1.4#15(a)) Production costs for manufacturing running shoes consist of a fixed overhead of \$650,000 plus variable costs of \$20 per pair of shoes. Each pair of shoes sells for \$70.

Find the total cost, $C(q)$, the total revenue, $R(q)$, and the total profit, $\pi(q)$, as a function of the number of pairs of shoes produced, q, and the break even point.

Example 2. (Hughes-Hallett, 4e, 1.4#15(b)) Find the marginal cost, marginal revenue and marginal profit for the shoe company (see Example **??**).

Example 3. (Hughes-Hallett, 3e,1.4#23) One of the tables below represents a supply curve; the other represents a demand curve.

(a) Which table represents which curve? Why?
(b) At a price of \$155, approximately how many items would consumers purchase?
(c) At a price of \$155, approximately how many items would manufacturers supply?
(d) Will the market push prices higher or lower than \$155?
(e) What would the price have to be if you wanted consumers to buy at least 20 items?
(f) What would the price have to be if you wanted manufacturers to supply at least 20 items?

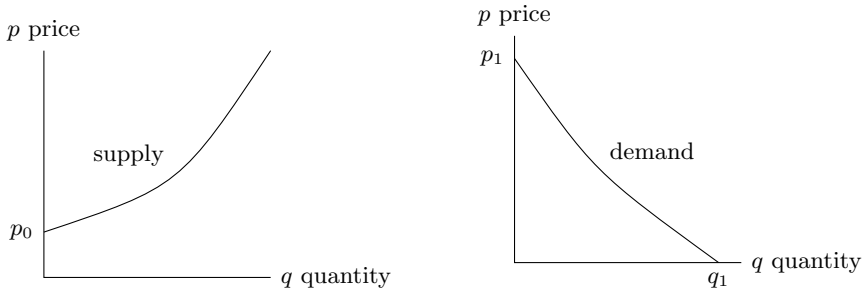
I:

p (\$/unit)	182	167	153	143	133	125	118
q (quantity)	5	10	15	20	25	30	35

II:

p (\$/unit)	6	35	66	110	166	235	316
q (quantity)	5	10	15	20	25	30	35

Example 4. Below are some generic supply and demand graphs. Interpret the economic meaning of the vertical and horizontal intercepts.



Example 5. (Hughes-Hallett, 3e, 1.4#21) A company produces and sells shirts. The fixed costs are \$7000 and the variable costs are \$5 per shirt.

(a) Shirts are sold for \$12 each. Find cost and revenue as functions of the quantity of shirts, q.

(b) The company is considering changing the selling price of the shirts. Demand is $q = 2000 - 40p$, where p is price in dollars and q is the number of shirts. What quantity is sold at the current price of \$12? What profit is realized at this price?

(c) Use the demand equation to write cost and revenue as a function of the price, p. Then write profit as a function of price.

(d) Graph profit against price. Find the price that maximizes profits. What is this profit?

Example 6. (Hughes-Hallet, 4e, 1.4#38) In Example 8 (from the text), the demand and supply curves are given by $q = 100 - 2p$ and $q = 3p - 50$, respectively; the equilibrium price is \$30 and the equilibrium quantity is 40 units. A sales tax of 5% is imposed on the consumer.

(a) Find the equation of the new demand and supply curves.
(b) Find the new equilibrium price and quantity.
(c) How much is paid on taxes on each unit? How much of this is paid by the consumer and how much by the producer?
(d) How much tax does the government collect?