BIRZEIT UNIVERSITY

Econ3311 Quiz # 1

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Use the following general linear demand function to answer the next five questions:

$$Q_d = a + bP + cM + dP_R$$

Where Q_d = quantity demanded, P = the price of the good, M = household income, P_R = the price of a good related in consumption (a, b, c, d are constant).

1. The law of demand requires that
   (a) $a < 0$
   (b) $b < 0$
   (c) $c < 0$
   (d) $b < 0$ and $d < 0$
   (e) $b < 0$ and $P < 0$

10/10

2. If $c = 0.01$, the good is
   (a) a normal good
   (b) an inferior good
   (c) a substitute for good R
   (d) a complement with good R
   (e) both a and d

3. If $d = -32$, the good is
   (a) a normal good
   (b) an inferior good
   (c) a substitute for good R
   (d) a complement with good R
   (e) both a and d

$$a + bP + cM + dP_R = e + fP + gP_K$$

$$a + cM + dP_R - e - gP_K = fP - bP$$

$$P(f - b)$$

$$\frac{e + gP_K - a - cM - dP_R}{f - b}$$

4. Suppose that the general supply function is estimated to be: $Q_S = e + fP + gP_K$ where P = the price of the good, P_K = the price of capital. The equilibrium price is:

   (a) $P = \frac{Qd - a - cM - dPR}{b}$

   (b) $P = \frac{Qs - e - gPk}{f}$

   (c) $P = \frac{e + gPk - a - cM - dPR}{b - f}$

   (d) $P = \frac{e - a - cM}{b - f}$

$$P = \frac{Q_S - e - gP_K}{f}$$

$$P = \frac{Q_d - a - cM - dP_R}{b}$$

$$Q = 180 - 20 - 200 + 50 = 10$$

5. Suppose that $Q_d = 180 - 10P - 0.2M + 10P_R$. When M = \$1,000 and P_R = \$5, and P = \$2, the price elasticity of demand is
   (a) $E_P = -2$
   (b) $E_P = -4$
   (c) $E_P = -10$
   (d) $E_P = -50$
   (e) $E_P = -0.05$

$$E = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

$$= -10 \times \frac{2}{10}$$

$$= \frac{-20}{10}$$