ECO 101A: Tutorial # 5

Date: 14/02/2017

1. Suppose that Diego's demand for soft drinks measured in litres per month is $S(p_s) = \frac{M}{20} - 5p_s$ and his monthly income M is equal to \$1000. Consider a price increase from p_s = \$2 to p_s = \$3.
   a) Find M_c, the amount of income Diego would need to maintain his previous lifestyle under the old lower price.
   b) Find S_c, the amount of soft drink he would consume if his income were M_c and the price of soft drink is the new higher price?
   c) Find the substitution effect, income effect and total effect of this price change.

2. Production function for Hamburger Village, a small restaurant, is given by $Q = 10\ K^{0.5}\ L^{0.5}$, where Q = number of hamburgers, K = capital (in \$1,000), and L = Labor (in person-hours). Input prices are given by w and r.
   a) Find the general formula for the isoquants $Q = Q_0$.
   b) Find (M)RTS.
   c) Find elasticity of substitution.
   d) Does this technology represent CRS, DRS or VRS?
   e) Find input demand functions.
   f) Suppose cost of capital (r) is \$2 and cost of labor (w) is \$5. Suppose the restaurant is currently producing output with 50 L and 375 K, is the restaurant producing efficiently?