

## Assignment #1

(Due by February 19, 2018)

1. Inverse market demand is:  $P_D = A - BQ_D$ , while inverse market supply is given as  $P_S = C + DQ_S$ . Derive the equilibrium price and equilibrium quantity. (2 points)
  
2. A company's production function is given as:  $q = L * K$ , where  $L$  is the quantity of labor,  $K$  is the amount of capital used by the company in production. The wage ( $w$ ) and capital's rental rate ( $r$ ) is given for this firm. Derive the company's cost function! (3 points)
  
3. How large is the Consumer Surplus (CS) and the Producer Surplus (PS) in equilibrium?
  - a. Draw the chart first labelling all the important points! (2 point)
  - b. Derive the formula for CS and for PS! (3 points)