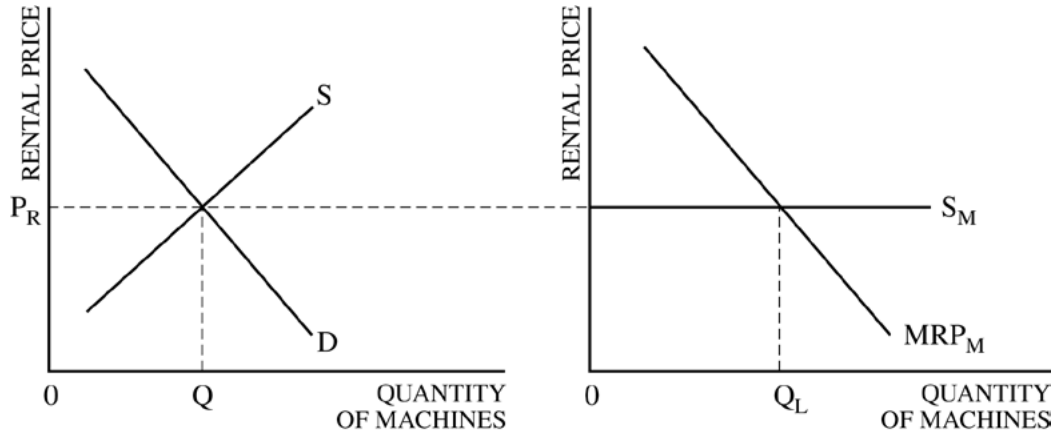


**AP[®] MICROECONOMICS
2010 SCORING GUIDELINES**

Question 2

5 points (2+2+1)

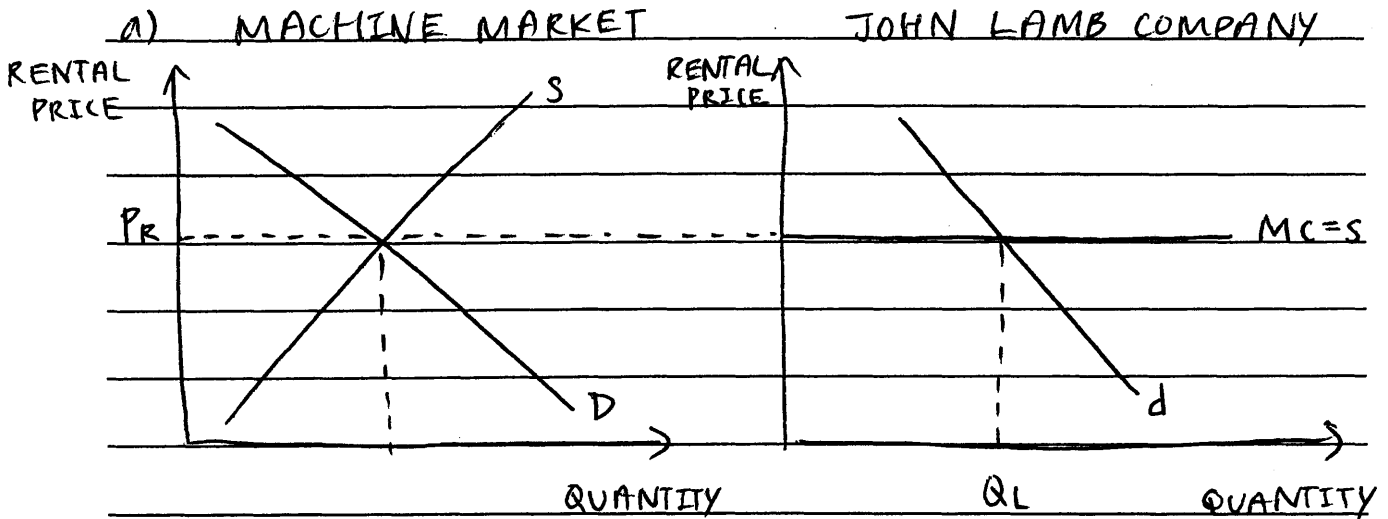


- (a) 2 points:
- One point is earned for the correct side-by-side graphs with a horizontal machine supply curve for John Lamb (S , D , P_R , S_M).
 - One point is earned for showing the equilibrium rental quantity of machines, Q_L , at the intersection of MRP_M and the horizontal supply curve.
- (b) 2 points:
- One point is earned for stating that there will be no change to the marginal product curve for machine-hours.
 - One point is earned for explaining that the MRP curve for machine-hours will decrease (shift to the left) because the decrease in demand decreases the price of widgets.
- (c) 1 point:
- One point is earned for correctly calculating the rental price of a machine:
 $MP_L/w = MP_K/r = 28/14 = 60/r$. Therefore, $r = \$30$.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

2

2A



b) NO effect on MP curve for machine-hours

(ii) Marginal revenue product curve for machine-hours would shift down. When demand for widgets decrease, the price of widgets also decrease. $MRP = MP \times P$. Since MP does not change, a decrease in price decreases MRP for every value of machine-hours.

c) Cost-minimizing combination of inputs occurs when MP of per unit cost of input A equals the MP per unit cost of input B :

$$\frac{MP_L}{\text{Wage}} = \frac{MP_M}{\text{Rent}}$$

$$\frac{28}{14} = \frac{60}{\text{RENT}}$$

Therefore, hourly rent price of a machine is \$30.