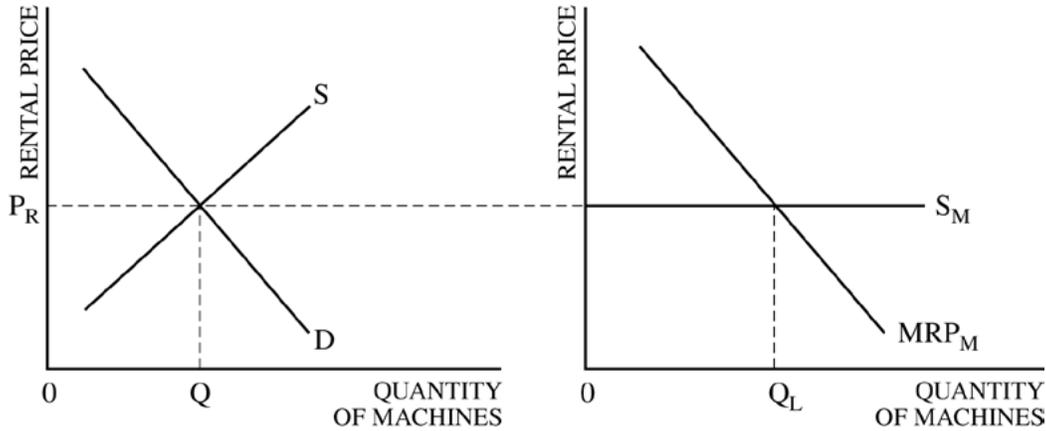


**AP<sup>®</sup> MICROECONOMICS  
2010 SCORING GUIDELINES**

**Question 2**

**5 points** (2+2+1)



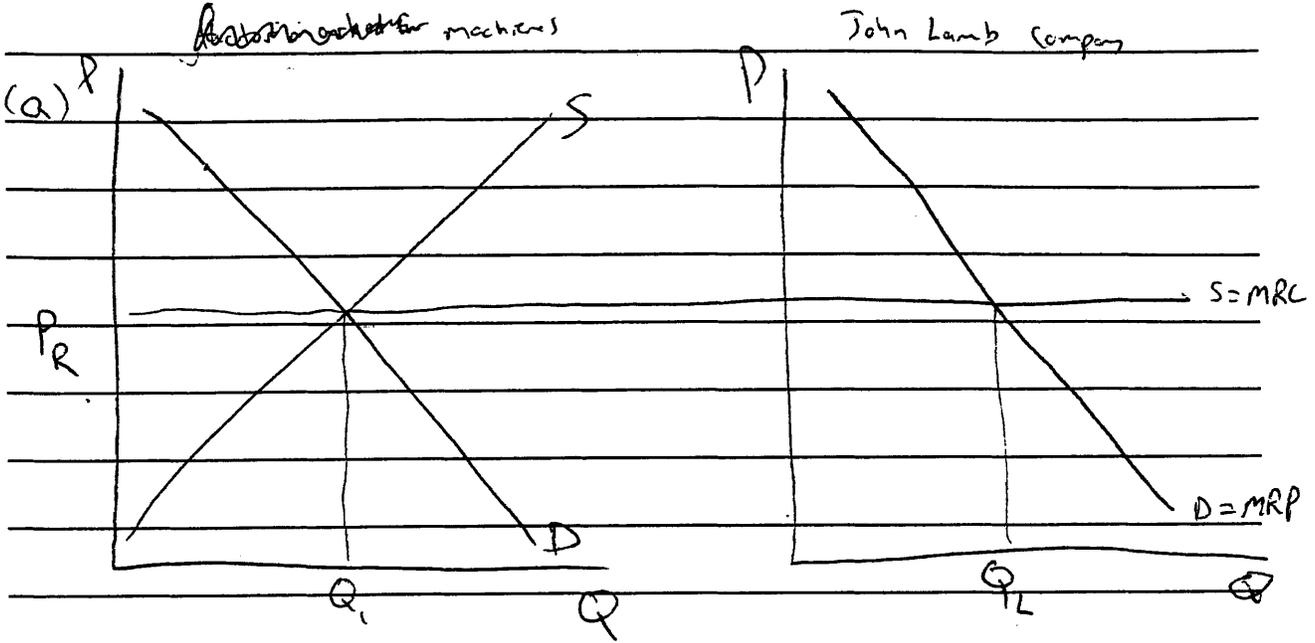
- (a) 2 points:
- One point is earned for the correct side-by-side graphs with a horizontal machine supply curve for John Lamb ( $S$ ,  $D$ ,  $P_R$ ,  $S_M$ ).
  - One point is earned for showing the equilibrium rental quantity of machines,  $Q_L$ , at the intersection of  $MRP_M$  and the horizontal 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,  $r = \$30$ .



2

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

2B



(b) i. move to the left

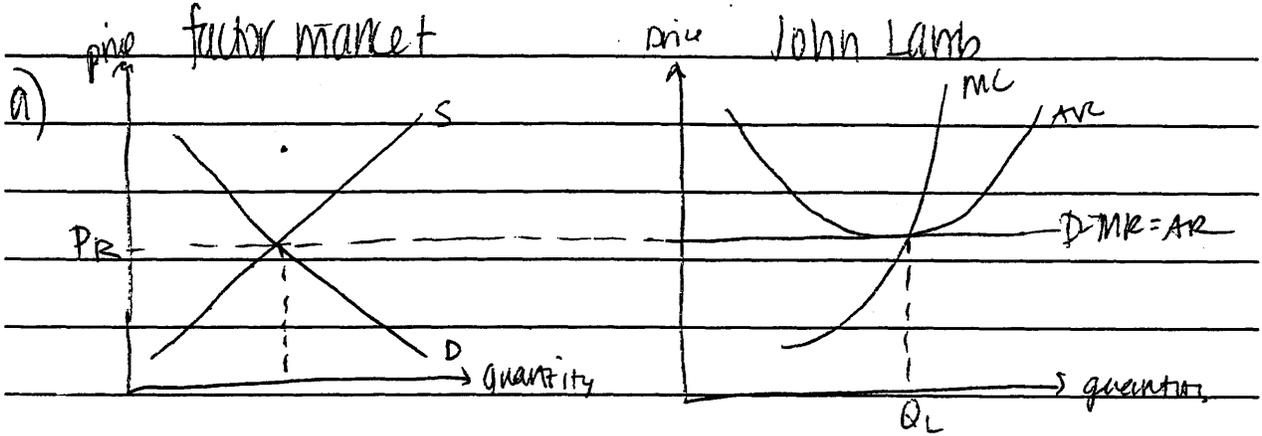
ii. The decrease in demand will cause the MRP for machine-hours to decrease because less is being demanded and  $D=MRP$ .

c  $\frac{28}{14} = \frac{60}{x}$      $x = 30$     hourly rental price of a machine = \$30

2

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

2C



b) i - the marginal product curve for machine-hours will decrease and it will cost more to produce marginal products

ii - The marginal revenue product curve for machine-hours will stay the same because in a perfectly competitive industry or market, the perfectly elastic demand curve is equal to the marginal revenue curve.

c) \$30

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**2010 SCORING COMMENTARY**

**Question 2**

**Overview**

This question assessed students' proficiency with a factor-market model. Part (a) asked students to draw the graphs for a factor market and a representative buyer. Part (b) tested for familiarity with the concepts of marginal product and marginal revenue product. Part (c) assessed students' understanding of the conditions for the cost-minimizing combination of inputs.

**Sample: 2A**

**Score: 5**

The student answered all parts correctly and so earned all 5 points.

**Sample: 2B**

**Score: 3**

The student lost 1 point in part (b)(i) for incorrectly stating that the marginal product moves "to the left." The student lost 1 point in part (b)(ii) for the incorrect explanation of why the marginal revenue product (MRP) decreases.

**Sample: 2C**

**Score: 1**

The student earned 1 point in part (c) for correctly calculating the hourly rental price of the machine.