

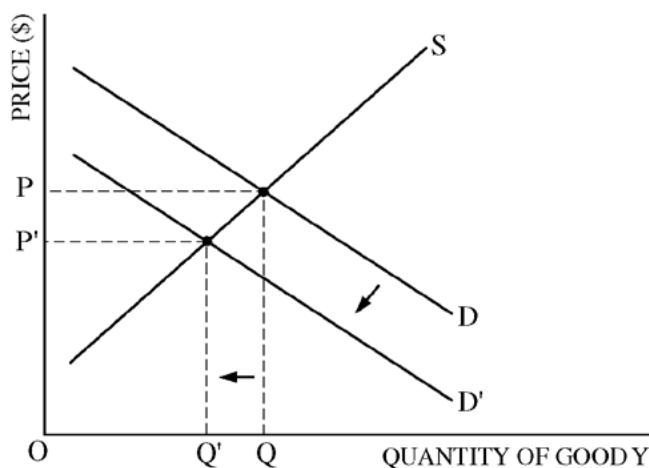
AP[®] MICROECONOMICS
2010 SCORING GUIDELINES (Form B)

Question 3

5 points (3 + 2)

(a) 3 points:

- One point is earned for stating that the demand for good X is relatively elastic, because the elasticity coefficient > 1 OR because total revenue rises as price decreases from \$30 to \$20.
- One point is earned for stating that supply is perfectly inelastic, because there is no change in the quantity supplied as the price changes OR because the supply elasticity is zero.
- One point is earned for stating that all of the burden of a per-unit tax falls on sellers.



(b) 2 points:

- One point is earned for a correctly labeled graph of supply and demand.
- One point is earned for showing a leftward shift of the demand curve and a decrease in the equilibrium price.

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

Question No. 3

3A

(a) (i) The demand for good X is relatively elastic.

The percentage change of the quantity is $\frac{3-1}{\frac{1}{2}(3+1)} = \frac{4}{4} = 1$

The percentage change of the price is $\frac{120-30}{\frac{1}{2}(20+30)} = \frac{90}{50} = \frac{2}{5}$

$$\text{so } E_d = \frac{\% \Delta Q}{\% \Delta P} = \frac{1}{\frac{2}{5}} = \frac{5}{2} = 2.5 > 1$$

so the demand for good X is relatively elastic

(ii) The supply for good X is perfectly inelastic.

The percentage change of the quantity is $\frac{3-3}{\frac{1}{2}(3+3)} = 0$

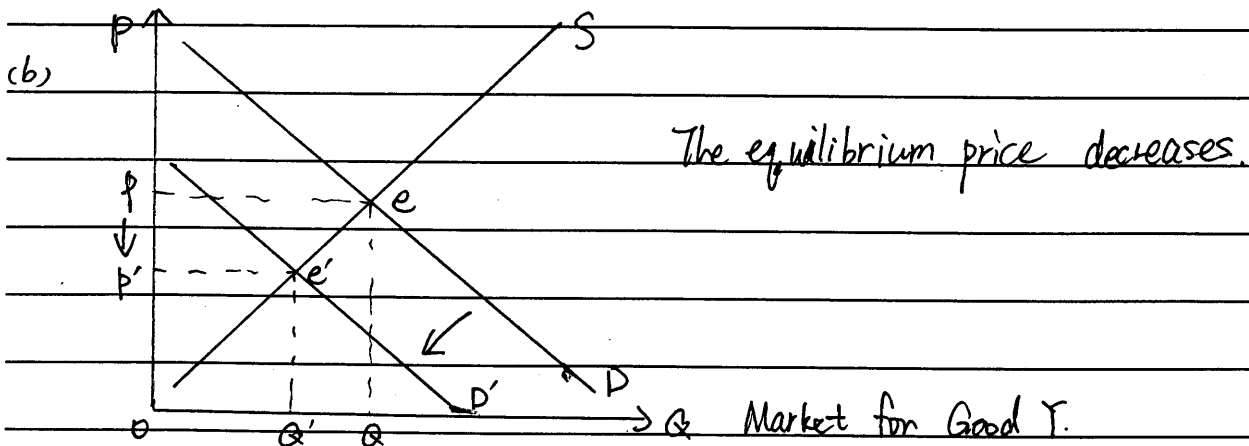
The percentage change of the price is $\frac{120-30}{\frac{1}{2}(20+30)} = \frac{2}{5}$

$$\text{so } E_s = \frac{\% \Delta Q}{\% \Delta P} = \frac{0}{\frac{2}{5}} = 0$$

so the supply for good X is perfectly inelastic.

(iii) ~~The~~ The sellers bear ~~the~~ all the tax

Because the supply of good X is perfectly inelastic



Because the income elasticity of demand for good Y is -2 , that means when the income increase, the demand for good Y will decrease as an inferior good, so when the income significantly increase, the demand decreases.

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

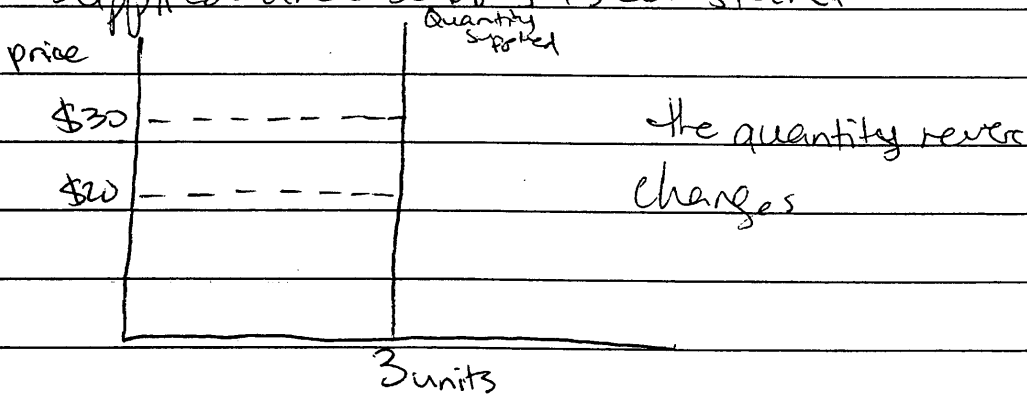
Question 3

a) (i) When the price decreases from \$30 to \$20, the demand for good X is relatively elastic.

This is because as price decreased the quantity demanded increased, making the ~~change in price~~ ^{quantity} demanded responsive to the price.

According to the formula $\frac{\% \Delta \text{Quantity demanded}}{\% \Delta \text{Price}}$, the decrease in price caused the equation to be greater than 1, making it relatively elastic. As quantity increased price decreased.

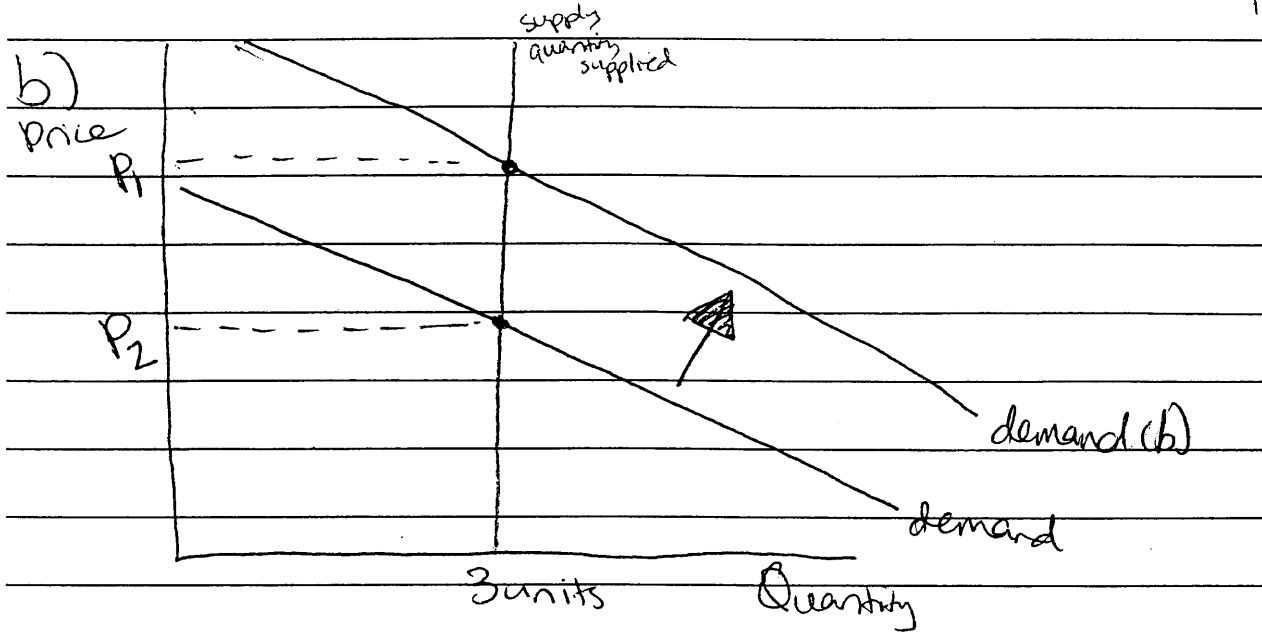
(ii) The supply of good X perfectly inelastic because the change in price from \$30 to \$20 caused no change in the quantity supplied, showing that price has no affect on quantity supplied and supply is constant



Question 3

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

3B
2 of 2



The price changes significantly when the income elasticity is -2 because an increase in income significantly raises demand due to more disposable income, which raises prices from P_2 to P_1 on the graph. ~~changes~~ increasing the equilibrium price.

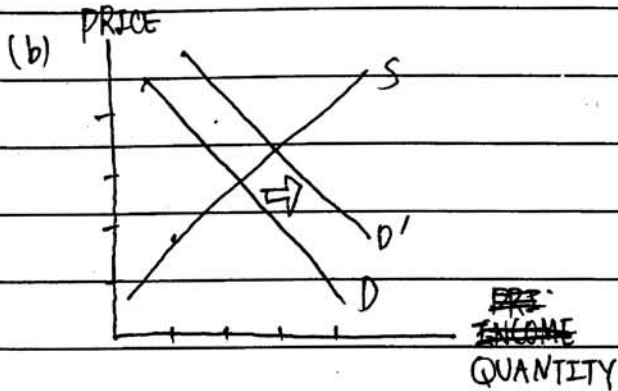
Write in the box the number of the question you are answering on this page as it is designated in the exam.

3

(a) (i) The demand for good X is relatively elastic.

(ii) The supply of good X is perfectly inelastic.

(iii) The buyers wholly burden the tax.



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2010 SCORING COMMENTARY (Form B)

Question 3

Sample: 3A

Score: 5

The student earned all 5 points for this question.

Sample: 3B

Score: 3

The student lost 1 point for not answering part (a)(iii). The student lost 1 point in part (b) for shifting the demand curve incorrectly.

Sample: 3C

Score: 1

The student earned 1 point in part (b) for a correctly labeled graph.