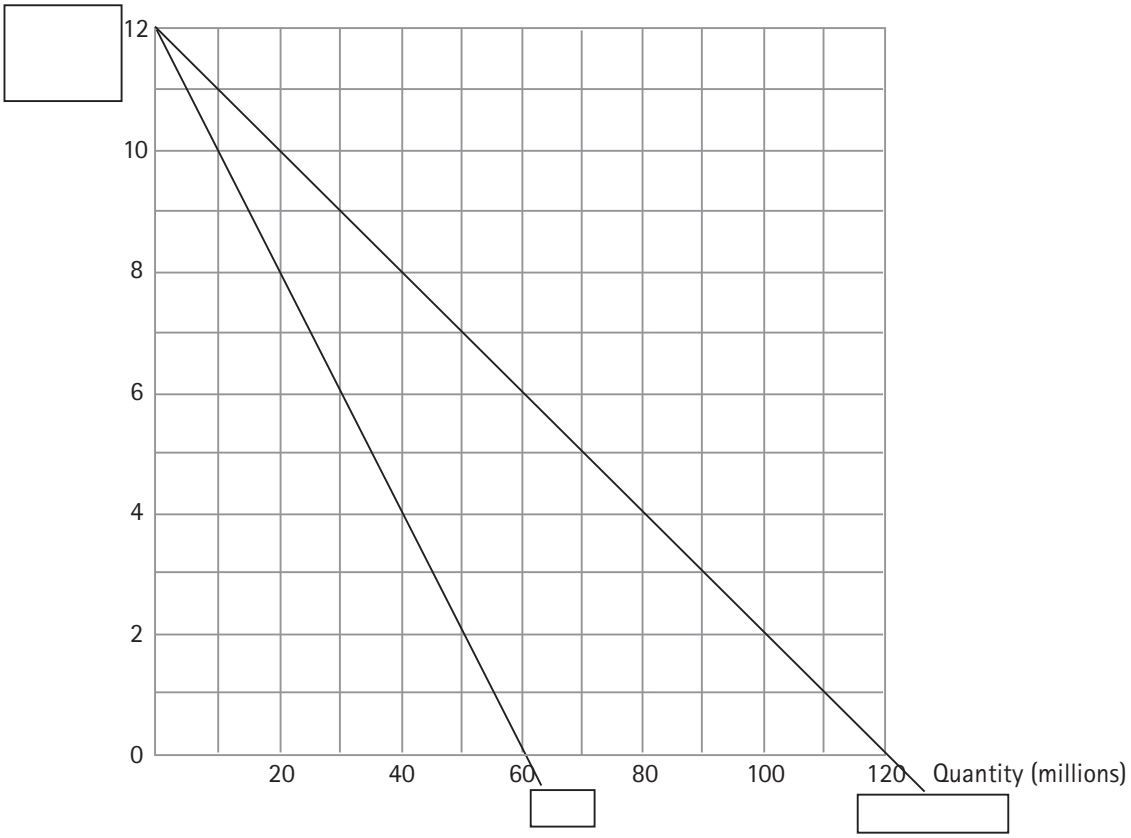
eLearneconomics: Imperfect Competition – Revenue Curves (1)

Student response

Use the graph below to answer the questions that follow.



(a) Label all the curves and axes appropriately, using the small boxes for answers.

(b) Explain how the revenue curves illustrate imperfect competition.

(c) Define marginal revenue.

(d) (i) Complete the table using the information above.

Units	Price (AR) ($)	Total revenue (TR) ($)	Marginal revenue (MR) ($)
20 million			
40 million			
60 million			
80 million			–4

(ii) Indicate at which level of output total revenue is a maximum and describe the relationship between TR and MR at this point.

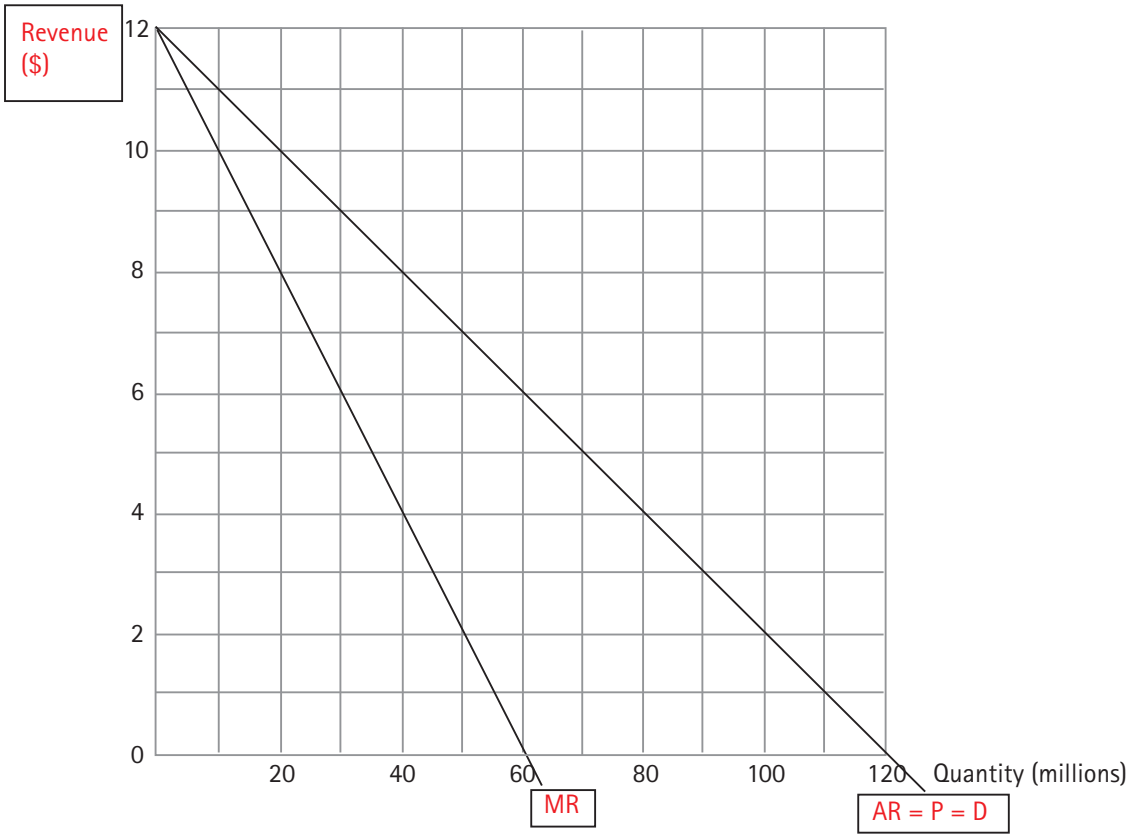
Output: _____

Relationship: _____

eLearneconomics: Imperfect Competition – Revenue Curves (1a)

Solutions

Use the graph below to answer the questions that follow.



(a) Label all the curves and axes appropriately, using the small boxes for answers.

(b) Explain how the revenue curves illustrate imperfect competition.

To sell an additional unit the imperfect competitior must lower the price on all units sold, and the AR > MR.

(c) Define marginal revenue.

The additions to total revenue from increasing sales by one unit.

(d) (i) Complete the table using the information above.

Units	Price (AR) ($)	Total revenue (TR) ($)	Marginal revenue (MR) ($)
20 million	10	200m	8
40 million	8	320m	4
60 million	6	360m	0
80 million	4	320m	–4

(ii) Indicate at which level of output total revenue is a maximum and describe the relationship between TR and MR at this point.

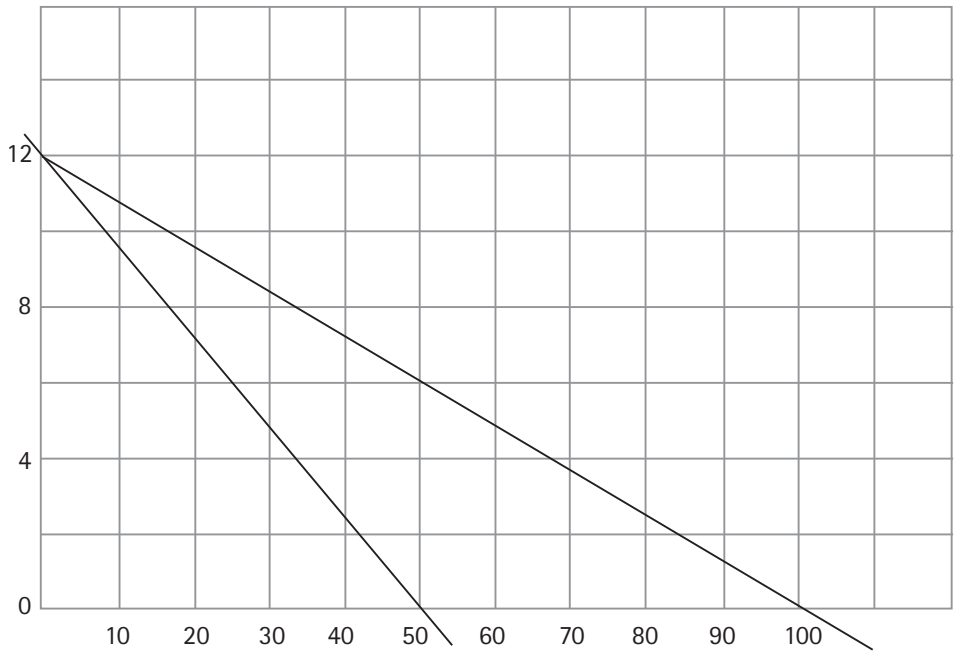
Output: 60 million units

Relationship: When TR is a maximum the MR is zero.

eLearneconomics: Imperfect Competition – Revenue Curves (2)

Student response

(a) Label the curves and the axes and then answer the questions that follow.



(b) What kind of demand curve does a monopolist face?

(c) What is the only way a monopolist can increase quantity demanded?

(d) At a price of $11, how many units can a monopolist sell? What is their total revenue?

Units sold = _____ TR = _____

(e) If the price is lowered to $6, how many units can the monopolist sell? What is their total revenue?

Units sold = _____ TR = _____

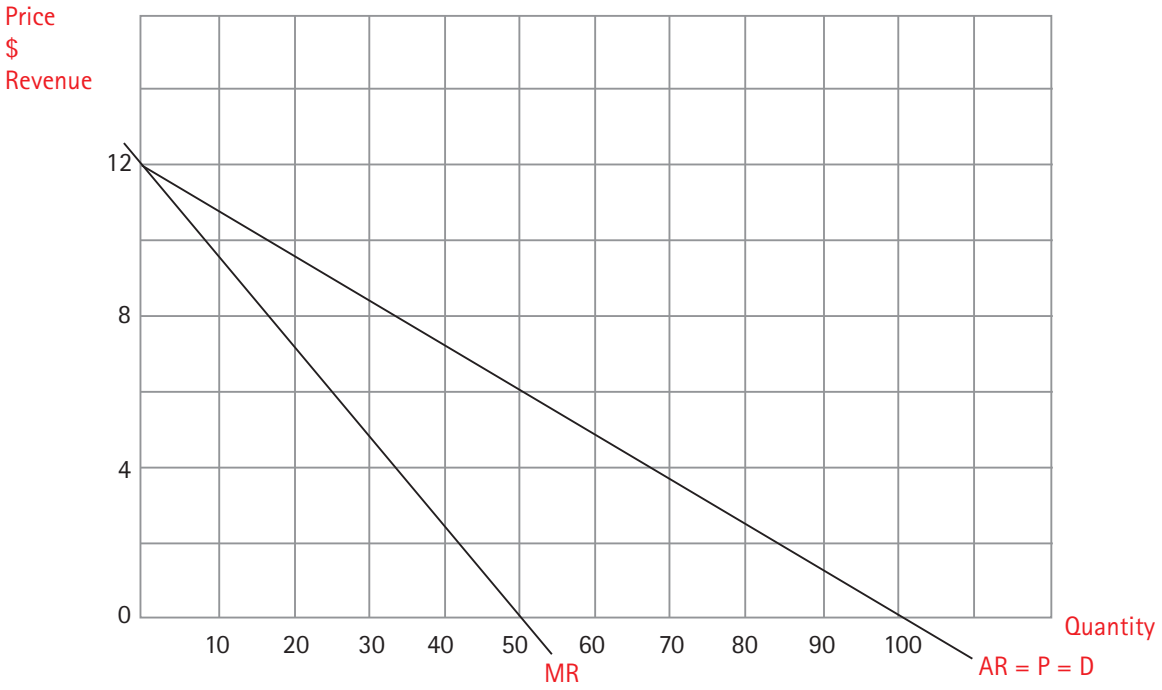
(f) Indicate if the following statements are *correct* or *incorrect* for the imperfect competitor.

Statement	Correct or incorrect?
(i) When a firm in imperfect competition increases output, price will increase.	
(ii) When a firm in imperfect competition increases output, price will decrease.	
(iii) When an imperfect competitor produces less, then price will decrease.	
(iv) When an imperfect competitor produces less, then price will increase.	

eLearneconomics: Imperfect Competition – Revenue Curves (2a)

Solutions

(a) Label the curves and the axes and then answer the questions that follow.



(b) What kind of demand curve does a monopolist face?

Downward sloping.

(c) What is the only way a monopolist can increase quantity demanded?

Lower price.

(d) At a price of $11, how many units can a monopolist sell? What is their total revenue?

Units sold = 10 TR = $110

(e) If the price is lowered to $6, how many units can the monopolist sell? What is their total revenue?

Units sold = 50 TR = $300

(f) Indicate if the following statements are *correct* or *incorrect* for the imperfect competitor.

Statement	Correct or incorrect?
(i) When a firm in imperfect competition increases output, price will increase.	incorrect
(ii) When a firm in imperfect competition increases output, price will decrease.	correct
(iii) When an imperfect competitor produces less, then price will decrease.	incorrect
(iv) When an imperfect competitor produces less, then price will increase.	correct

eLearneconomics: Imperfect Competition – Revenue Curves (3)

Student response

(a) Complete the following statements using the table.

Firm	Price ($)	MR ($)	AR ($)
X	2.50	2.00	2.50
O	2.10	2.10	2.10
N	3.90	4.00	3.90

(i) In a perfect competition, P = _____ = _____ = demand.

(ii) In imperfect competition, P = _____ = demand, and it's impossible for MR to be _____ than _____.

(iii) In the table, _____ is a perfect competitor, because _____.

(iv) In the table, the firm _____ is an imperfect competitor, because _____.

(v) In the table, firm _____ revenue structure is impossible because _____.

(b) Indicate if the following statements are correct or incorrect.

Statement	Correct or incorrect?
(i) To sell an additional unit a monopoly or imperfect competition must lower price.	
(ii) In imperfect competition, Price = AR.	
(iii) In imperfect competition, Price > MR.	
(iv) In imperfect competition, Price = MR.	
(v) In imperfect competition, MR > Price.	
(vi) An oligopoly has weak barriers to entry.	
(vii) Imperfect competitors sell an identical product.	
(viii) Perfect competitors are too large to influence price.	
(ix) In perfect competition, AR = P = D = MR.	
(x) For a firm in perfect and imperfect competition, its demand curve is equal to its AR curve.	
(xi) MR must be less than price in perfect competition.	
(xii) MR must be less than price in imperfect competition.	
(xiii) AR = Price in both perfect and imperfect competition.	
(xiv) The demand curve for firms in perfect and imperfect competition equals the MR curve.	
(xv) For a monopolist, the MR curve cuts the output axis exactly two thirds of the way between the origin and where the AR cuts that axis.	

eLearneconomics: Imperfect Competition – Revenue Curves (3a)

Solutions

(a) Complete the following statements using the table.

Firm	Price ($)	MR ($)	AR ($)
X	2.50	2.00	2.50
O	2.10	2.10	2.10
N	3.90	4.00	3.90

(i) In a perfect competition, P = AR = MR = demand.

(ii) In imperfect competition, P = AR = demand, and it's impossible for MR to be greater than AR.

(iii) In the table, O is a perfect competitor, because AR = MR.

(iv) In the table, the firm X is an imperfect competitor, because AR > MR.

(v) In the table, firm N revenue structure is impossible because MR > AR.

(b) Indicate if the following statements are correct or incorrect.

Statement	Correct or incorrect?
(i) To sell an additional unit a monopoly or imperfect competition must lower price.	correct
(ii) In imperfect competition, Price = AR.	correct
(iii) In imperfect competition, Price > MR.	correct
(iv) In imperfect competition, Price = MR.	incorrect
(v) In imperfect competition, MR > Price.	incorrect
(vi) An oligopoly has weak barriers to entry.	incorrect
(vii) Imperfect competitors sell an identical product.	incorrect
(viii) Perfect competitors are too large to influence price.	incorrect
(ix) In perfect competition, AR = P = D = MR.	correct
(x) For a firm in perfect and imperfect competition, its demand curve is equal to its AR curve.	correct
(xi) MR must be less than price in perfect competition.	incorrect
(xii) MR must be less than price in imperfect competition.	correct
(xiii) AR = Price in both perfect and imperfect competition.	correct
(xiv) The demand curve for firms in perfect and imperfect competition equals the MR curve.	incorrect
(xv) For a monopolist, the MR curve cuts the output axis exactly two thirds of the way between the origin and where the AR cuts that axis.	incorrect