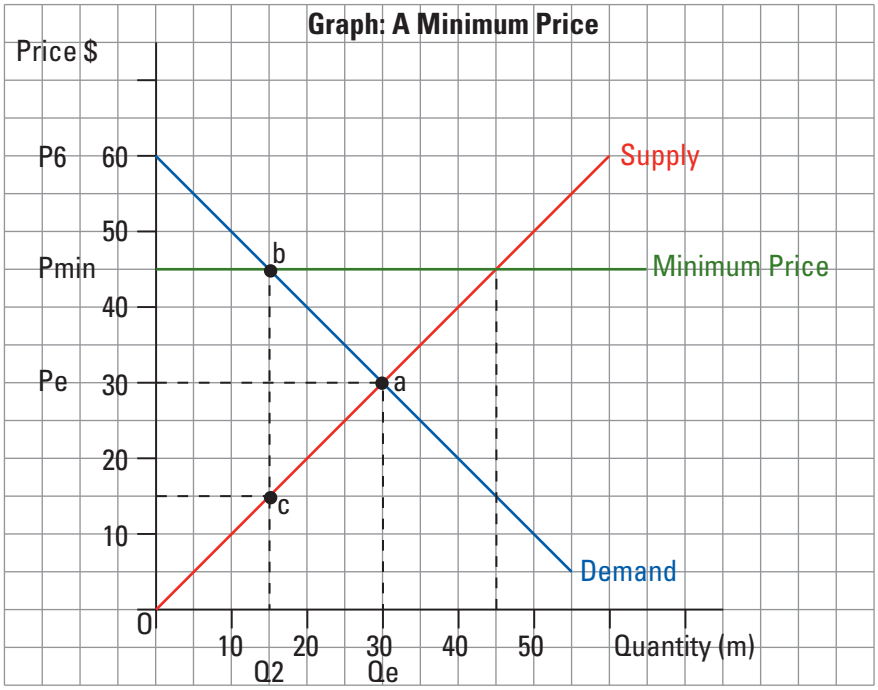
eLearneconomics: Consumer/Producer Surplus – Price Controls (1)

Student response

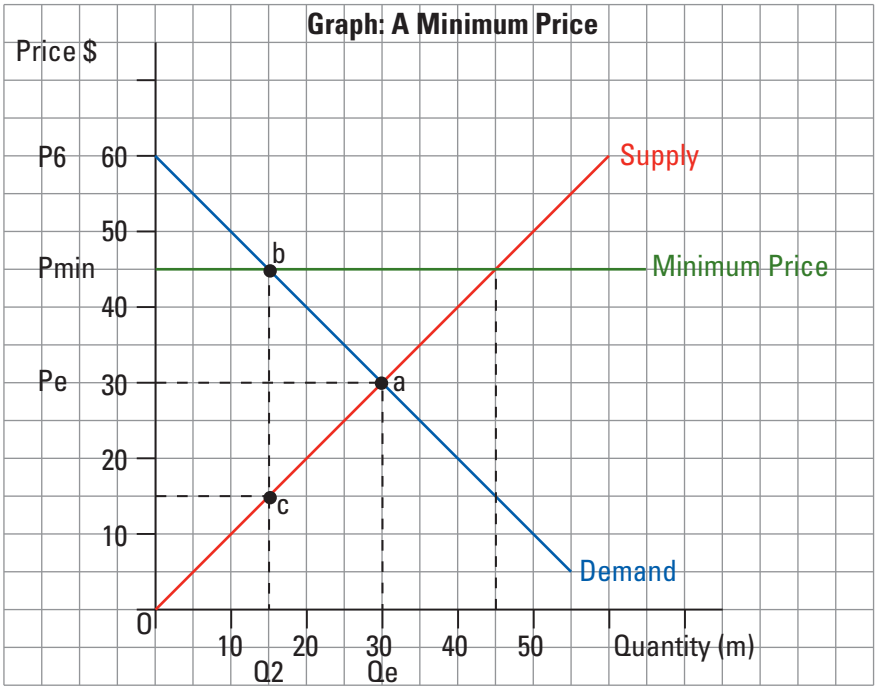
(a) Explain, using figures, the changes to consumer surplus, producer surplus and allocative efficiency as the result of the government imposing a minimum price.



eLearneconomics: Consumer/Producer Surplus – Price Controls (1a)

Solution

(a) Explain, using figures, the changes to consumer surplus, producer surplus and allocative efficiency as the result of the government imposing a minimum price.



A minimum price control is when the market price is not allowed to fall below a certain minimum (floor) level. Consumer surplus (CS) is the difference between what a consumer is prepared to pay for consuming a good or service and the price actually paid. On the diagram the original consumer surplus is $450m – i.e. it is the area above the original price paid ($30) and below the demand curve. At the minimum price consumers pay $45 and purchase 15m units, the consumer surplus will be $112.5m, a loss of $337.5m. There is a loss of consumer surplus because consumers pay a higher price and consume less.

Producer surplus is the difference between the total earnings of suppliers for a certain quantity sold and the total costs required to put that quantity on the market. At the original price of $30 the value of the producer surplus is $450m – i.e. it is the area below the original price paid ($30) and above the supply curve. When the minimum price is imposed the producer surplus will be $562.5m. There is a gain in producer surplus of $112.5m.

Allocative efficiency represents that combination of goods that consumers actually want, or when it is not possible to make someone better off without making someone else worse off. A minimum price will impact on allocative efficiency because consumer surplus and producer surplus are no longer maximised, which results in a deadweight loss (DWL). Part of the consumer surplus and producer surplus is not picked up as part of the minimum price, therefore causing a loss to society. There is a the loss of welfare by an individual or group which is not offset by welfare gain to some other individual or group of $225m.

eLearneconomics: Consumer/Producer Surplus – Price Controls (2)

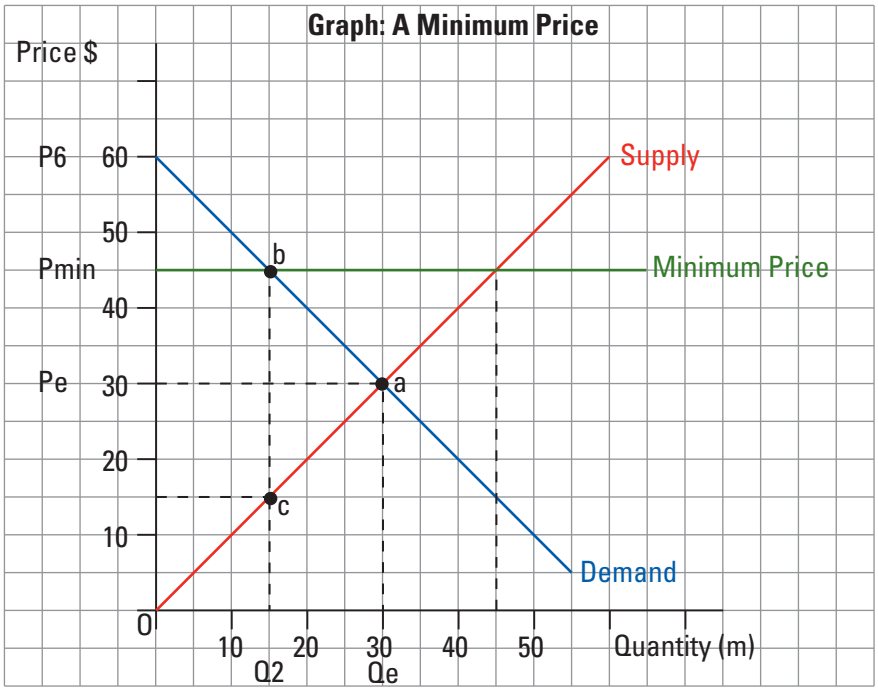
Student response

(a) Show the effects of the government imposing a minimum price on the market by:

(i) shading the consumer surplus

(ii) shading the producer surplus

(iii) shading any loss of allocative efficiency



(b) Complete the table.

	Labels from the graph
Original consumer surplus	
New consumer surplus	
Original producer surplus	
New producer surplus	
Deadweight loss	

eLearneconomics: Consumer/Producer Surplus – Price Controls (2a)

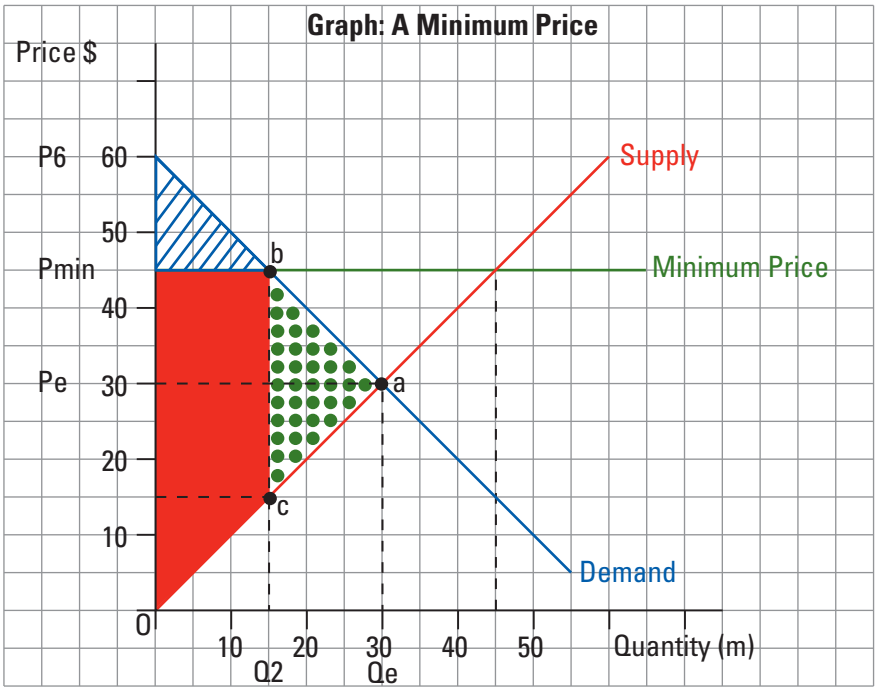
Solution

(a) Show the effects of the government imposing a minimum price on the market by:

(i) shading the consumer surplus

(ii) shading the producer surplus

(iii) shading any loss of allocative efficiency



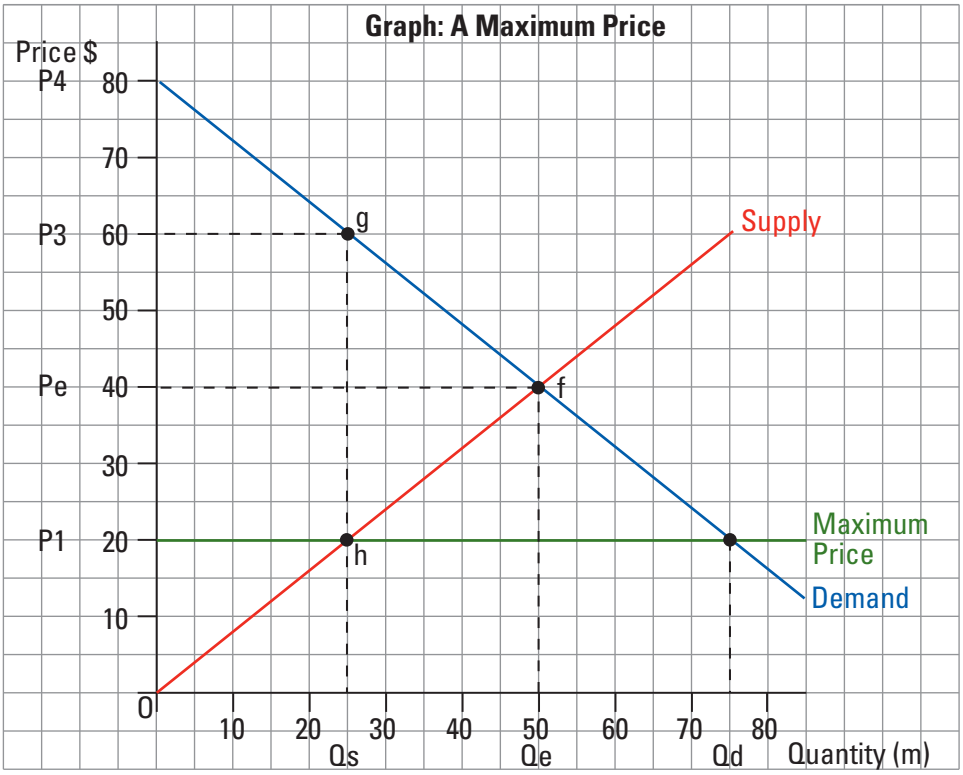
(b) Complete the table.

	Labels from the graph
Original consumer surplus	P6 a Pe
New consumer surplus	P6 b Pmin
Original producer surplus	Pe a 0
New producer surplus	Pmin bc 0
Deadweight loss	a b c

eLearneconomics: Consumer/Producer Surplus – Price Controls (3)

Student response

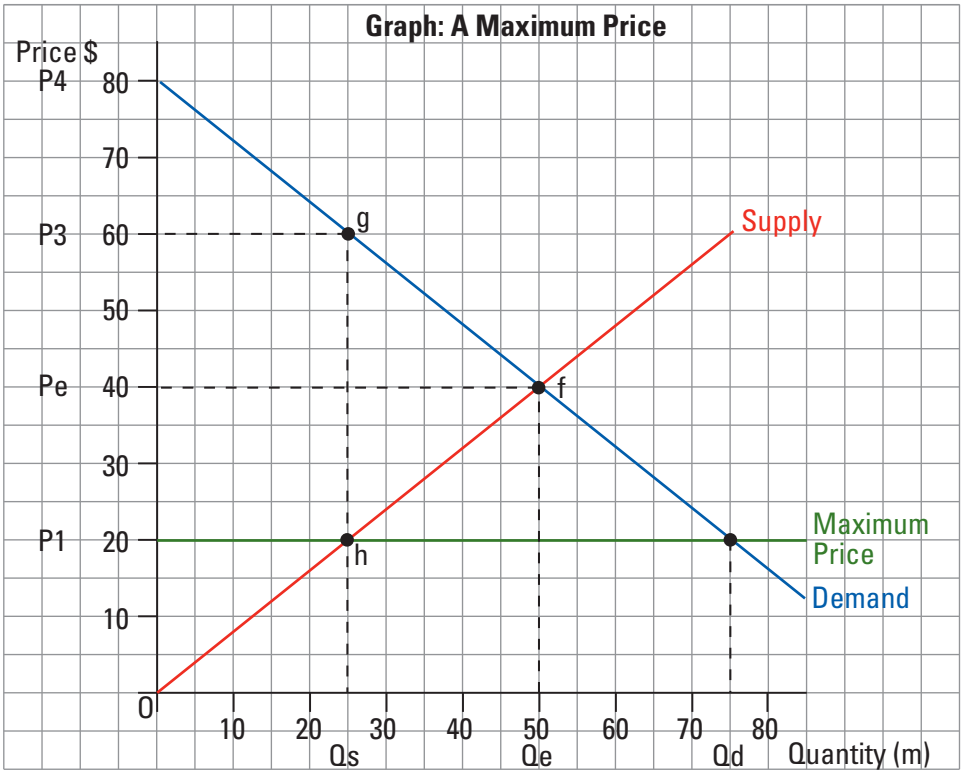
(a) Explain, using figures, the changes to consumer surplus, producer surplus and allocative efficiency as the result of the government imposing a maximum price.



eLearneconomics: Consumer/Producer Surplus – Price Controls (3a)

Solution

(a) Explain, using figures, the changes to consumer surplus, producer surplus and allocative efficiency as the result of the government imposing a maximum price.



Consumer surplus (CS) is the difference between what a consumer is prepared to pay for consuming a good or service and the price actually paid. On the diagram the original consumer surplus is $1000m – i.e. it is the area above the original price paid ($40) and below the demand curve. At the maximum price consumers pay $20 and purchase 25m units, the consumer surplus will be $1250m, a gain of $250m.

Producer surplus is the difference between the total earnings of suppliers for a certain quantity sold and the total costs required to put that quantity on the market. At the original price of $40 the value of the producer surplus is $1000m – i.e. it is the area below the original price paid ($40) and above the supply curve. When the maximum price is imposed at $20 the producer surplus will be $250m. There is a loss in producer surplus of $750m because producers receive a lower price ($20 rather than $40) and sell less (25m rather than 50m).

When the government imposes a maximum price, part of the consumer surplus and producer surplus is not picked up as part of the maximum price, therefore causing a loss to society. This loss of allocative efficiency is termed a deadweight loss (DWL),in the diagram it is $500m. It is a loss of welfare by an individual or group that is not offset by welfare gain to some other individual or group.

eLearneconomics: Consumer/Producer Surplus – Price Controls (4)

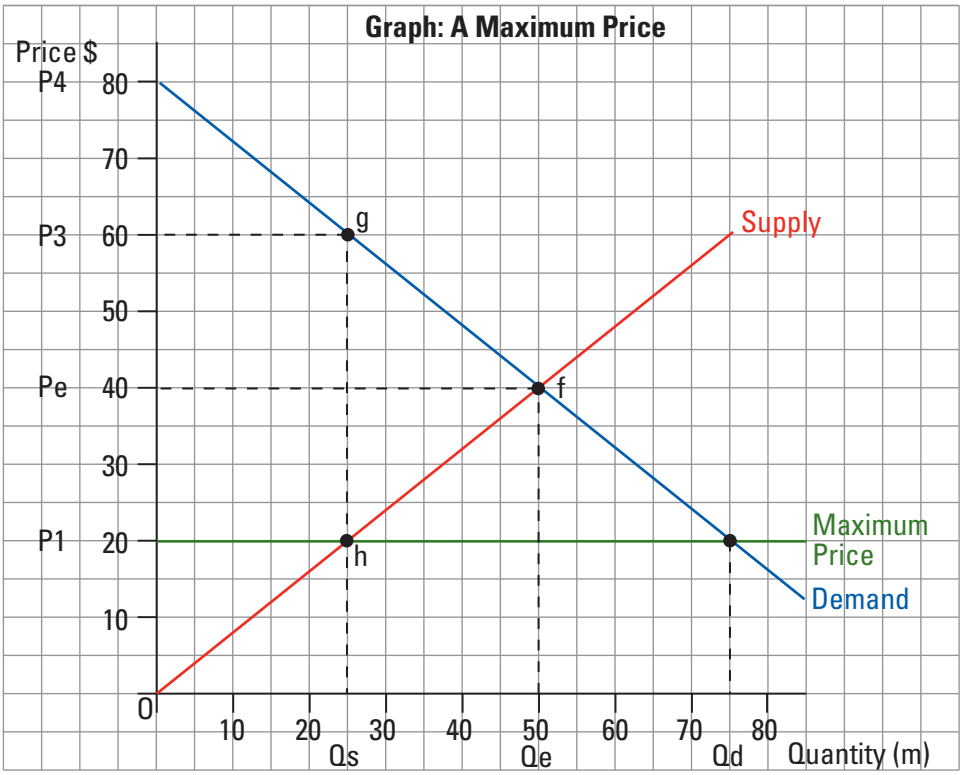
Student response

(a) Show the effects of the government imposing a maximum price on the market by:

(i) shading the consumer surplus

(ii) shading the producer surplus

(iii) shading any loss of allocative efficiency



(b) Complete the table.

	Labels from the graph
Original consumer surplus	
New consumer surplus	
Original producer surplus	
New producer surplus	
Deadweight loss	

eLearneconomics: Consumer/Producer Surplus – Price Controls (4a)

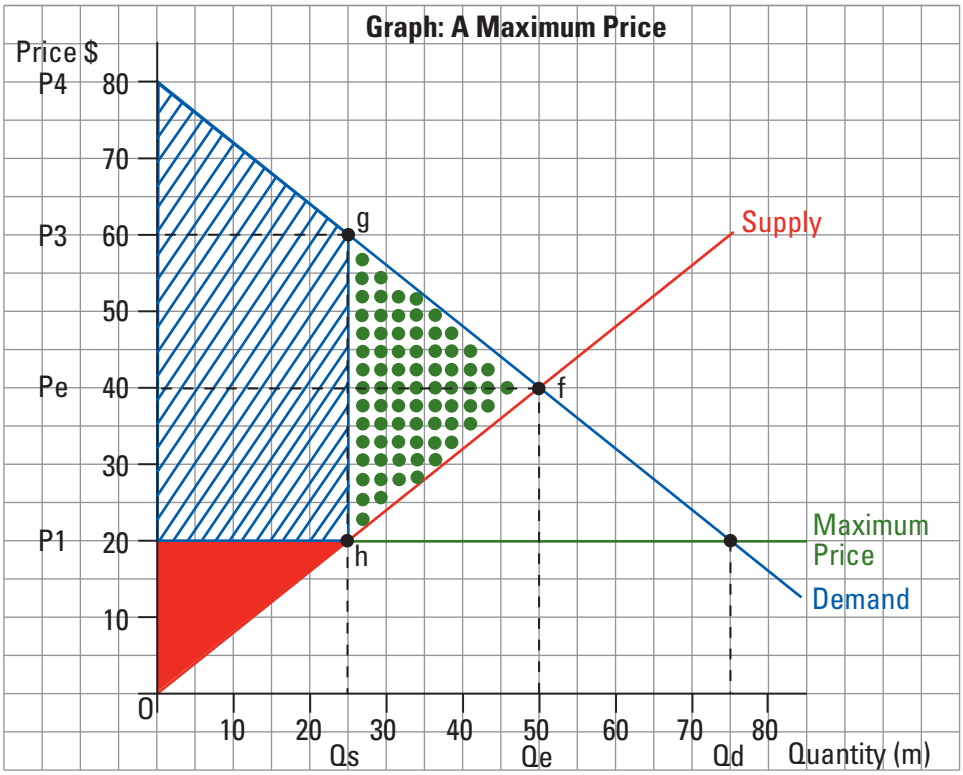
Solution

(a) Show the effects of the government imposing a maximum price on the market by:

(i) shading the consumer surplus

(ii) shading the producer surplus

(iii) shading any loss of allocative efficiency



(b) Complete the table.

	Labels from the graph
Original consumer surplus	P4 f Pe
New consumer surplus	P4 gh P1
Original producer surplus	Pe f O
New producer surplus	P1 h O
Deadweight loss	g h f