Module 1 Review: Markets, Demand and Supply

Student workbook: attempt every question before looking at the solutions manual.

O1	Analyse a market event: decide which curve shifts, in which direction, and find the new equilibrium (Lesson 1).
O2	Use the price elasticity of demand and the total revenue test to predict what happens to sellers' revenue (Lesson 2).
O3	Measure the gains and losses of buyers and sellers with consumer, producer and total surplus (Lesson 3).
O4	Evaluate a price ceiling or floor using the whole toolkit, separating evidence from value judgements (Lesson 4).

O1: Analyse a market event: decide which curve shifts, in which direction, and find the new equilibrium (Lesson 1).

Q01 [Foundational · multiple choice]

A storm destroys part of the mango harvest. Which curve shifts, and which way? (a) demand, left (b) demand, right (c) supply, left (d) supply, right

Q02 [Foundational · true/false]

True or false: after the storm, 'the demand for mangoes fell'.

Q03 [Core · numerical]

A smaller storm cuts supply to Qs = -200 + 200P. Find the new equilibrium price and quantity.

Q04 [Core · numerical]

A larger storm cuts supply to Qs = -400 + 200P. Find the new equilibrium.

Q05 [Applied · numerical]

Demand rises to Qd' = 1300 - 200P at the same time as the storm cuts supply to Qs' = -300 + 200P. Find the new equilibrium and say which change was certain in advance.

Q06 [Applied · conceptual]

Explain, using the correct vocabulary, what happened in the mango market after the storm.

O2: Use the price elasticity of demand and the total revenue test to predict what happens to sellers' revenue (Lesson 2).

Q07 [Foundational · true/false]

True or false: when a good's price rises, sellers' total revenue always rises.

Q08 [Core · numerical]

The bus fare rises by 10% and the number of tickets sold falls by 5%. Find the elasticity and say what happens to revenue.

Q09 [Core · numerical]

After the 100 kg storm the mango price rises from $3 to $3.25 and the quantity falls from 500 to 450 kg. Find the midpoint elasticity and the change in revenue.

Q10 [Applied · numerical]

After the 300 kg storm the price rises from $3 to $3.75 and the quantity falls from 500 to 350 kg. Find the midpoint elasticity and the change in revenue.

Q11 [Applied · conceptual]

A farmers' leader says: 'A storm is good news for us: prices go up.' Using elasticity, explain when this is true and when it is false.

Q12 [Advanced · critical thinking]

Why might the same storm raise farmers' revenue in the long run but lower it in the short run, or the other way round? Explain using elasticity.

O3: Measure the gains and losses of buyers and sellers with consumer, producer and total surplus (Lesson 3).

Q13 [Foundational · numerical]

After the 200 kg storm (price $3.50, 400 kg), find consumer surplus.

Q14 [Core · numerical]

After the 200 kg storm, the new supply curve meets the price axis at $1.50. Find producer surplus and total surplus.

Q15 [Core · numerical]

By how much do buyers and sellers each lose from the 200 kg storm?

Q16 [Applied · numerical]

For the 100 kg storm (Qs = -200 + 200P), find consumer, producer and total surplus.

Q17 [Applied · conceptual]

Explain why the fall in total surplus after the storm is not a deadweight loss.

Q18 [Applied · numerical]

Demand rises to Qd' = 1300 - 200P with the original supply. Find the new producer surplus.

O4: Evaluate a price ceiling or floor using the whole toolkit, separating evidence from value judgements (Lesson 4).

Q19 [Foundational · true/false]

True or false: after the storm, a price floor of $3 would have no effect.

Q20 [Core · numerical]

After the storm, the council sets a ceiling of $3. Find the shortage, the quantity traded and the deadweight loss.

Q21 [Applied · numerical]

After the storm, the council considers a ceiling of $3.25 instead. Find the shortage and the deadweight loss.

Q22 [Applied · numerical]

After the storm, farmers ask for a floor of $4. Find the surplus of mangoes, the quantity sold and the deadweight loss.

Q23 [Advanced · long answer]

In about 250 words, advise the council whether to impose the $3 ceiling after the storm. Use all four tools, give numbers, and separate evidence from value judgements.

Q24 [Advanced · critical thinking]

Suggest one alternative to a price ceiling that could help low-income households after the storm, and compare it with the ceiling using the Module 1 tools.

Module 1 test (about 60 minutes, 35 marks)

Answer every question. Show your working and draw labelled diagrams where helpful. Items are drawn from the Lesson 1-4 question banks; the lesson for each item is shown so you can revise afterwards.

1. [A1, 1 mark, Lesson 1] In your own words, what is a market? Give two examples that are not physical places.
2. [A2, 1 mark, Lesson 1] In a market for bicycles, who are the producers? (a) people buying bicycles (b) firms making and selling bicycles (c) the government (d) banks
3. [A3, 1 mark, Lesson 2] Using the midpoint method, what is the percentage change in quantity when it falls from 700 kg to 500 kg?
4. [A4, 2 marks, Lesson 2] A firm faces elastic demand and cuts its price. Its total revenue will: (a) rise (b) fall (c) stay the same (d) cannot be known
5. [A5, 1 mark, Lesson 3] Lena would pay up to $80 for a concert ticket and pays $50. What is her consumer surplus?
6. [A6, 2 marks, Lesson 3] In the mango market, find producer surplus at the equilibrium price of $3.
7. [A7, 1 mark, Lesson 4] In the mango market (equilibrium $3), a ceiling of $4 is introduced. What happens? (a) a shortage of 400 kg (b) a surplus of 400 kg (c) nothing changes (d) the price rises to $4
8. [A8, 2 marks, Lesson 4] Mango market, ceiling $2. Find consumer surplus, producer surplus and the deadweight loss.
9. [B9, 4 marks, Lesson 1] Incomes rise and, at the same time, a storm damages farms. Can you say for certain what happens to the price of mangoes? To the quantity?
10. [B10, 4 marks, Lesson 2] A bus company raises fares by 10% and finds that its fare revenue falls. A manager says 'passengers must not care much about price'. Evaluate the claim.
11. [B11, 4 marks, Lesson 3] Only 300 kg of mangoes are traded. Calculate the lost surplus and the remaining total surplus.
12. [B12, 4 marks, Lesson 4] Under the $2 ceiling, how much surplus is transferred from sellers to buyers, and how much does each group lose in trades that no longer happen?
13. [C13, 8 marks, Lesson 4] In about 250 words, with a labelled diagram, evaluate a price ceiling on rents. Present the main arguments on both sides and say what evidence you would want before reaching a conclusion.

Project: analyse a real market event with all four tools (individual, about 800 words)

Choose a recent, real event that changed a market you can find reliable information about (for example a poor harvest, a new technology, a fuel price change, a festival or holiday rush). Use only real, checkable sources.

1. Explain which curve(s) shifted and why, with a labelled diagram, and describe what happened to the price and quantity (O1).
2. Discuss whether demand for the good is likely to be elastic or inelastic, with reasons, and what that implies for sellers' revenue (O2).
3. Identify who gained and who lost, and illustrate the changes in consumer and producer surplus on your diagram (O3).
4. If a price control was used or proposed, evaluate it: binding or not, shortage or surplus, deadweight loss and side effects, and the value judgements involved; otherwise discuss one control that might be proposed (O4).
5. List your sources.