Questions *Microeconomics* (with answers)

2a Elasticities

01 Price elasticity of demand 1

If the price rises by 3 %, the quantity demanded falls by 1.5 %. Calculate the price elasticity of demand.

02 Price elasticity of demand 2

If the price falls from 6 to 4, the quantity demanded rises from 8000 to 12000.

① Calculate the price elasticity of demand by using midpoints.

② What happens to turnover (Price * Quantity) due to the price change?

03 Price elasticity of demand 3

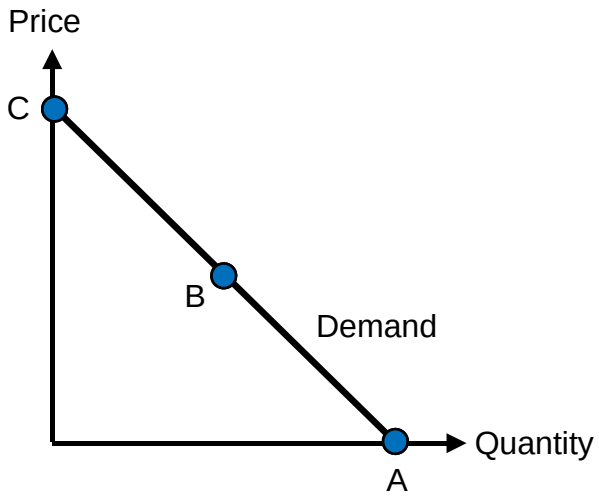
In a cinema many seats remain empty. The manager examines the following alternatives:

①	Decrease in prices	12 %	→	Increase in entries	15 %
②	Increase in prices	10 %	→	Decrease in entries	12 %

Which alternative is chosen if the manager intends to maximize turnover?
Hint: Calculate the percentage change in turnover to be able to choose the alternative.

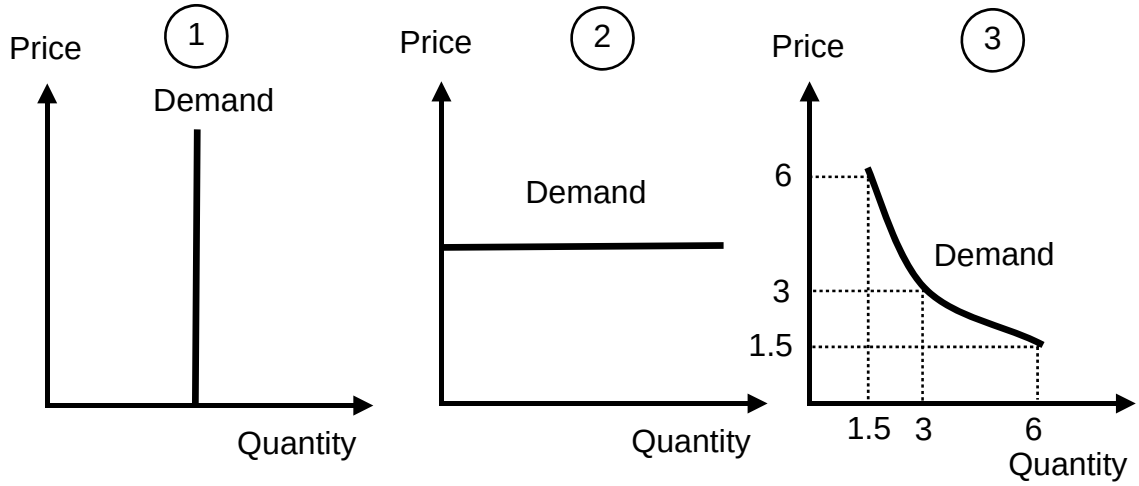
04 Price elasticity of demand 4

Characterize the price elasticity of demand if we move along the demand curve from A to B and finally to C.



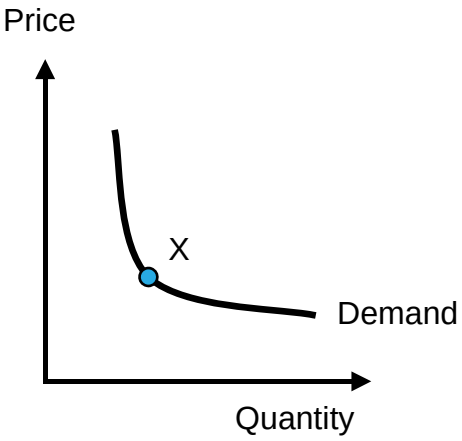
05 Price elasticity of demand 5

Determine the price elasticity of demand in the special cases ① to ③:



06 Price elasticity of demand 6

How can the price elasticity of demand be measured at point X?



07 Income elasticity of demand 1

Which type of goods can be observed assuming the following income elasticities of demand?

① Good X: + 0.5
② Good Y: + 2.6
③ Good Z: - 0.4

08 Income elasticity of demand 2

The income elasticities of demand of two goods, A and B, are as follows:

① Good A: + 3.0
② Good B: - 0.2

Now income rises by 5 %. By how much quantities demanded of A and B will change?

09 Cross-price elasticity of demand

How can the cross-price elasticity of demand be used to identify the relationship between two goods, C and D?

10 Elasticities and types of good

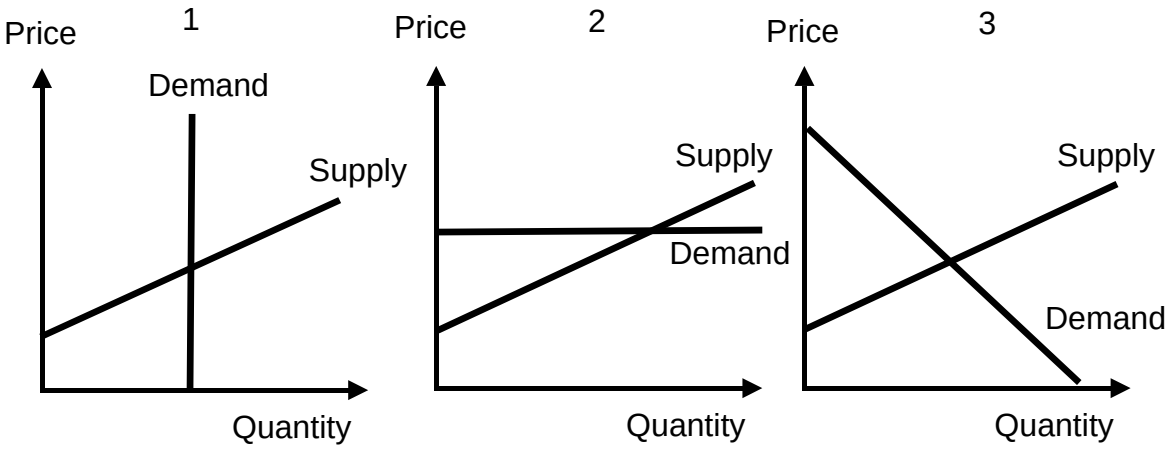
Characterize the good by taking the following elasticities into account:

① Price elasticity of demand: 0.5
② Income elasticity of demand: - 0.2
③ Cross-price elasticity of demand: - 0.3

11 Elasticities and tax incidence

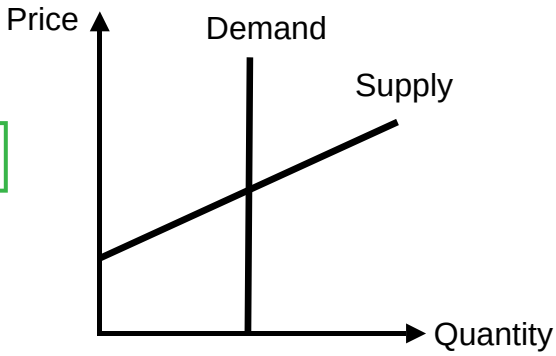
A new sales tax (for example $ 1 per piece) is introduced.

① Who bears the tax in the cases 1, 2 and 3?
② Describe the relationship between price elasticity of demand and tax incidence.



12 Elasticity and turnover

Market for grain



What happens to turnover (Price * Quantity) if there is a bumper crop of grain?

→ Answers. Click here!

Answers *Microeconomics*

2a Elasticities

01 Price elasticity of demand 1

$e = \frac{-1.5}{3} = -0.5 \rightarrow \mathbf{0.5}$

02 Price elasticity of demand 2

① $e = \frac{\frac{4000}{10000}}{\frac{2}{5}} = 1$ (absolute value)

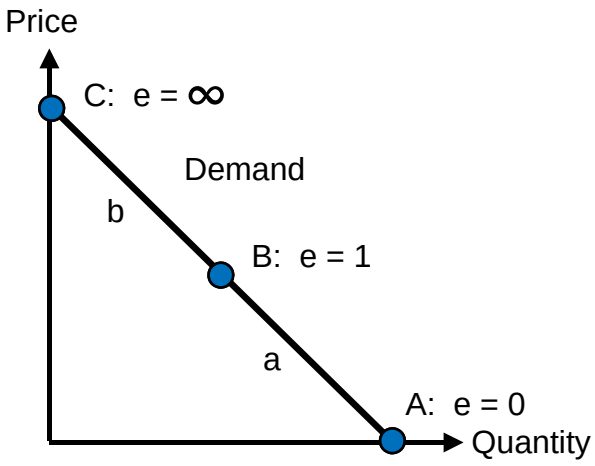
② Turnover before price change = 6 * 8000 = 48000
Turnover after price change = 4 * 12000 = 48000
→ Turnover unchanged

03 Price elasticity of demand 3

	Price		Quantity		Turnover
before change	1	*	1	=	1
①	0.88	*	1.15	=	1.012
Turnover **rises** by 1.2 %					
②	1.1	*	0.88	=	0.968
Turnover **falls** by 3.2 %					

→ Alternative ① is chosen.

04 Price elasticity of demand 4



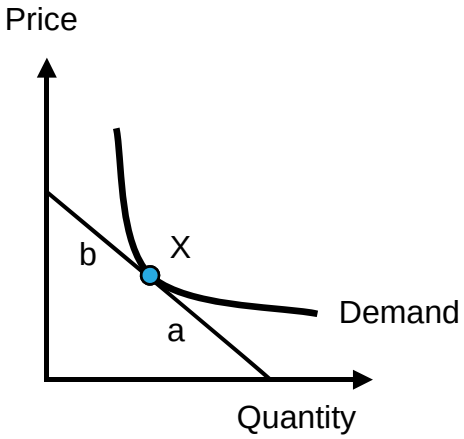
a (between A and B) → 0 < e < 1

b (between B and C) → 1 < e < ∞

05 Price elasticity of demand 5

① e = 0
② e = ∞
③ e = 1 (constant turnover of 9)

06 Price elasticity of demand 6



Steps

1 Put tangent at X

2 $e = \frac{a}{b}$

07 Income elasticity of demand 1

① Good X: Normal good, necessity
② Good Y: Normal good, luxury good
③ Good Z: Inferior good

08 Income elasticity of demand 2

① Good A: 5 % * 3 = 15 %
② Good B: 5 % * - 0.2 = - 1 %

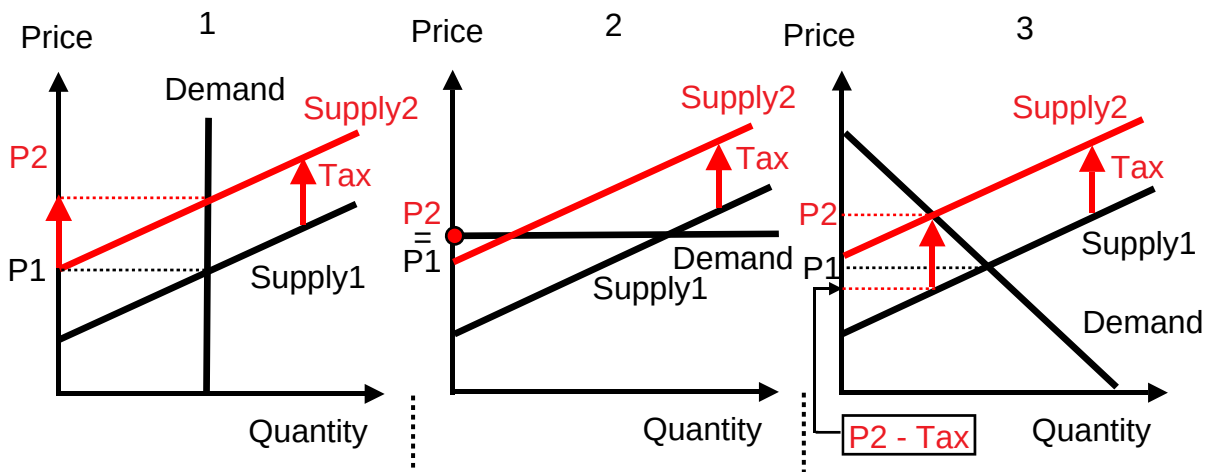
09 Cross-price elasticity of demand

- If cross-price elasticity of demand > 0, then C and D are substitutes.
- If cross-price elasticity of demand < 0, then C and D are complements.

10 Elasticities and types of good

① The demand for this good is price inelastic (0 < e < 1).
② It is an inferior good (Income elasticity of demand < 0).
③ It is a complement to another good (Cross-price elasticity of demand < 0).

11 Elasticities and tax incidence



① Tax is completely borne by the **buyer** (P2 = P1+Tax).

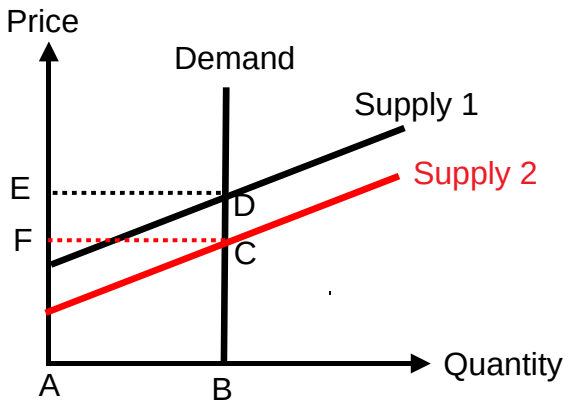
① Tax is completely borne by the **seller** (P2 = P1).

① Tax is borne partially by the **buyer** (P2< P1+Tax) and partially by the **seller** (P1>P2-Tax).

② The **lower** the price elasticity of demand, the more the tax is borne by the **buyer** (if e = 0, the tax is completely borne by the buyer).

The **higher** the price elasticity of demand, the more the tax is borne by the **seller** (if e = ∞, the tax is completely borne by the seller).

12 Elasticity and turnover



The turnover is **reduced** by the bumper crop.

- Turnover before the bumper crop: ABDE
- Turnover after the bumber crop: ABCF
- Loss in turnover: FCDE

To 2b Elasticities (MC): www.economics.li/downloads/Elasticities.htm

→ Back to questions. Click here!