

# AUSTRALIAN ECONOMICS AND BUSINESS STUDIES COMPETITION

## Economics Competition

Question Paper

Thursday, 5 May 2016

### Instructions:

1. Do not open this booklet until instructed by your teacher.
2. You have **fifty minutes** to answer all **forty questions**.
3. **Pencils and erasers only**. No calculators or rulers are allowed.
4. Read all instructions in the Response Sheet provided.
5. Mark your answers using **pencil only** on the Response Sheet.
6. All questions are of equal value.
7. Choose the **most correct** option to the question and colour in the corresponding oval on the Response Sheet.
8. **One mark** will be awarded for each correct response.
9. Avoid random guessing, as **one quarter** of a mark will be deducted for each incorrect answer.
10. PLEASE MAKE SURE YOU FILL IN YOUR NAME CORRECTLY ON THE RESPONSE SHEET. ANY MISTAKES YOU MAKE WILL APPEAR ON YOUR CERTIFICATE.

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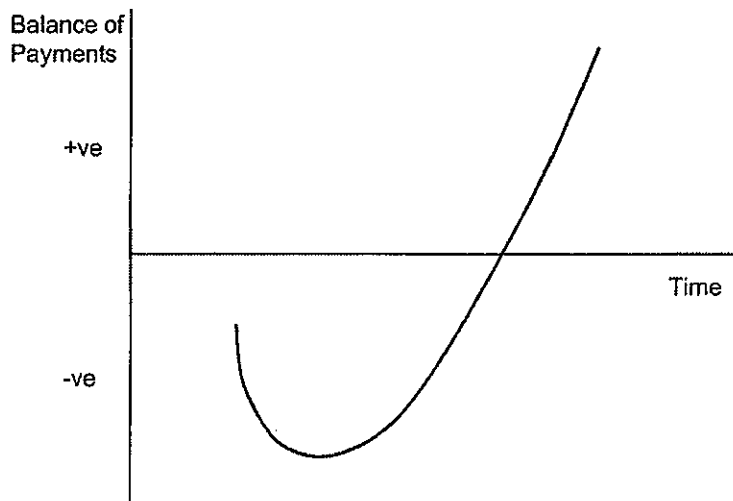
**Question 1**

The United States provides Malaysia with \$2 million to rebuild bridges following a natural disaster in Malaysia. How would this be recorded in Malaysia's Balance of Payments?

- a. Credit in Net Secondary Income
- b. Debit in the Capital Account
- c. Credit in the Capital Account
- d. Debit in Net Secondary income

**Question 2**

Which of the following is the most likely phenomenon that explains the following curve?



- a. Devaluation
- b. Revaluation
- c. A floating exchange rate
- d. Fluctuations in economic activity

**Question 3**

The use of cost-reducing technology, such as more sophisticated capital, increases which of the following?

- a. Technical efficiency
- b. Productive efficiency
- c. Allocative efficiency
- d. Dynamic efficiency

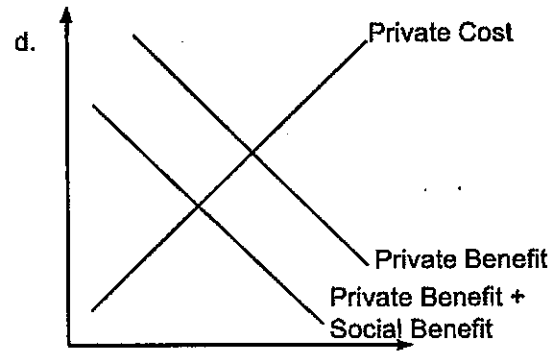
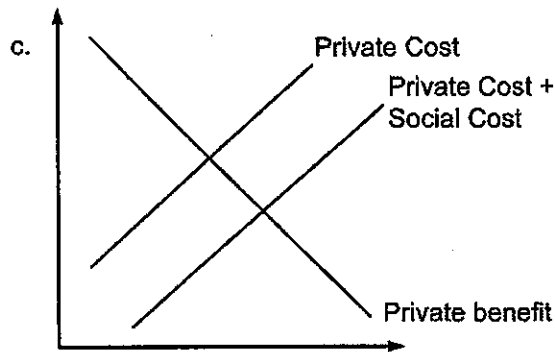
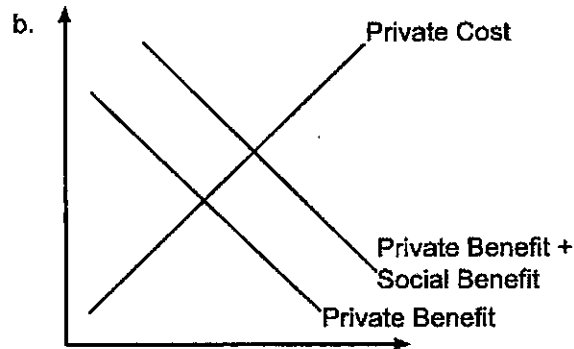
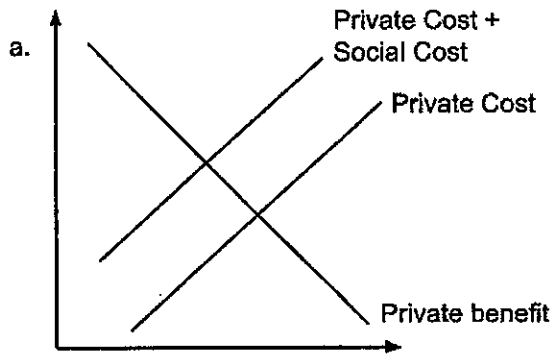
**Question 4**

Why do many utilities (electricity, water, gas, telecommunications, etc. providers) in Australia tend to become monopolies?

- a. Utilities tend to produce positive returns to scale, resulting in a tendency to become a monopoly in an unregulated market
- b. Many of these companies are government-owned monopolies which allow the government to better regulate prices
- c. Australia's isolation from the rest of the world means that foreign competitors do not enter Australia's utilities industry
- d. Both a and b

**Question 5**

Which of the following diagrams best illustrates the externalities that arise from carbon dioxide atmospheric pollution during the production process of certain goods?



**Question 6**

The Australian Government is planning to introduce potential reforms to section 46 of the *Competition and Consumer Act 2010*, which currently regulates the misuse of market power by corporations. This reform can be described as:

- a. Fiscal policy
- b. Monetary policy
- c. Microeconomic reform
- d. Macroeconomic reform

**Question 7**

An economy has a taxation system whereby businesses that earn greater profits pay more tax than businesses that earn less profit. Which of the following taxation systems best describes this?

- a. Progressive tax system
- b. Regressive tax system
- c. Proportional tax system
- d. Need more information

**Question 8**

Okun's law describes the relationship between:

- a. Interest rates and actual GDP
- b. Unemployment and actual GDP
- c. Interest rates and inflation
- d. Unemployment and inflation

**Question 9**

News websites like The Sydney Morning Herald have introduced a paywall, where consumers are required to pay to read articles if they read more than the prescribed quota of 'free' articles. Which of the following is true?

- a. The website is now excludable, and, because of this, is now a private good
- b. The website is now rivalrous, and, because of this, is now a private good
- c. The website is now non-rivalrous and, because of this, is now a public good
- d. None of the above

**Question 10**

Under a progressive system of income taxation, as taxable income increases:

- a. The marginal rate of taxation increases, and the average rate of taxation increases. The average rate of taxation is always lower than the marginal rate at a particular income level
- b. The marginal rate of taxation increases, and the average rate of taxation increases. The average rate of taxation is always higher than the marginal rate at a particular income level
- c. The marginal rate of taxation decreases, and the average rate of taxation decreases. The average rate of taxation is always lower than the marginal rate at a particular income level
- d. Both the marginal and average rates of taxation remain constant

**Question 11**

The unemployment rate is known to be 45% in an economy. There are 100 people in the labour force. 10 people are considered frictionally unemployed, 15 people are underemployed, 5 are in long-term unemployment, 15 are cyclically unemployed and 7 are seasonally unemployed.

Unemployment	45
Labour Force	100
Frictional Unemployment	10
Underemployment	15
Long Term Unemployment	5
Cyclical Unemployment	15
Seasonal Unemployment	7

What is the full employment unemployment rate?

- a. 52%
- b. 30%
- c. 0%
- d. 35%

**Question 12**

The following are characteristics of two economies, Economy A and Economy B. Both governments implemented identical increases in expenditure of \$5 000. Which economy will experience the greatest change in national income?

	ECONOMY A	ECONOMY B
MPS	0.2	0.4
APS	0.1	0.2
MPC	0.8	0.6
APC	0.9	0.8
TOT (current year)	105	96

- a. Economy B; change is \$12 500
- b. Economy A; change is \$25 000
- c. Economy B; change is \$8 333
- d. Economy A; change is \$7 143

**Question 13**

In which of these situations would CPI inflation overestimate the real rate of inflation?

- a. A new iPad of higher capability is released at a higher price
- b. Utility gained from consuming butter and margarine is equal. The price of butter has increased.
- c. Falling price of oil
- d. a and b

**Question 14**

There has been an inward shift of the Lorenz curve. Which of the following is most likely to have caused this?

- a. Freezing indexation of the fuel excise
- b. Relaxed eligibility requirements for youth allowance
- c. Decrease in the temporary budget repair levy
- d. Decrease in the tax-free threshold

**Question 15**

A market has the following characteristics:

- Multiple sellers and buyers
- Slightly differentiated products

Which of the following best describes this market?

- a. Monopoly
- b. Monopsony
- c. Monopolistic competition
- d. Oligopoly

**Question 16**

The *income effect* is an increase in demand for normal goods and services as income rises. The *substitution effect* is a decrease in demand for a good as its price increases.

The demand for goods such as wine or jewellery tends to increase as price increases because:

- a. Income effect > Substitution effect
- b. Income effect  $\propto$  Substitution effect
- c. Substitution effect > Income effect
- d. Substitution effect = Income effect

**Question 17**

The Australian dollar is appreciating by a worrying amount. To restore stability, the RBA could \_\_\_\_\_. This is known as \_\_\_\_\_.

- a. Buy foreign currency; dirtying the float
- b. Raise interest rates; tightening the monetary policy
- c. Buy domestic currency; dirtying the float
- d. Sell foreign currency; currency stability

**Question 18**

Assume that Australia is a closed economy and there are 1 million school students in Australia. The marginal propensity to consume for individuals is 0.8.

Which of the following government policies will have the largest impact on National Income?

- a. Purchasing \$100 worth of textbooks for each secondary school student in Australia for schools to use
- b. Giving \$100 per secondary school student to families in Australia to spend on whatever they want
- c. Cutting income taxes by \$100 million
- d. All the above policies will have the same effect on National Income

**Question 19**

Sarah operates a factory that manufactures widgets. Assume that she uses only 2 inputs, labour and capital. Assume that the quantity of capital used is fixed. Each widget sells for \$5. Assume that all widgets that are produced are sold.

What is the profit-maximising level of production for Sarah?

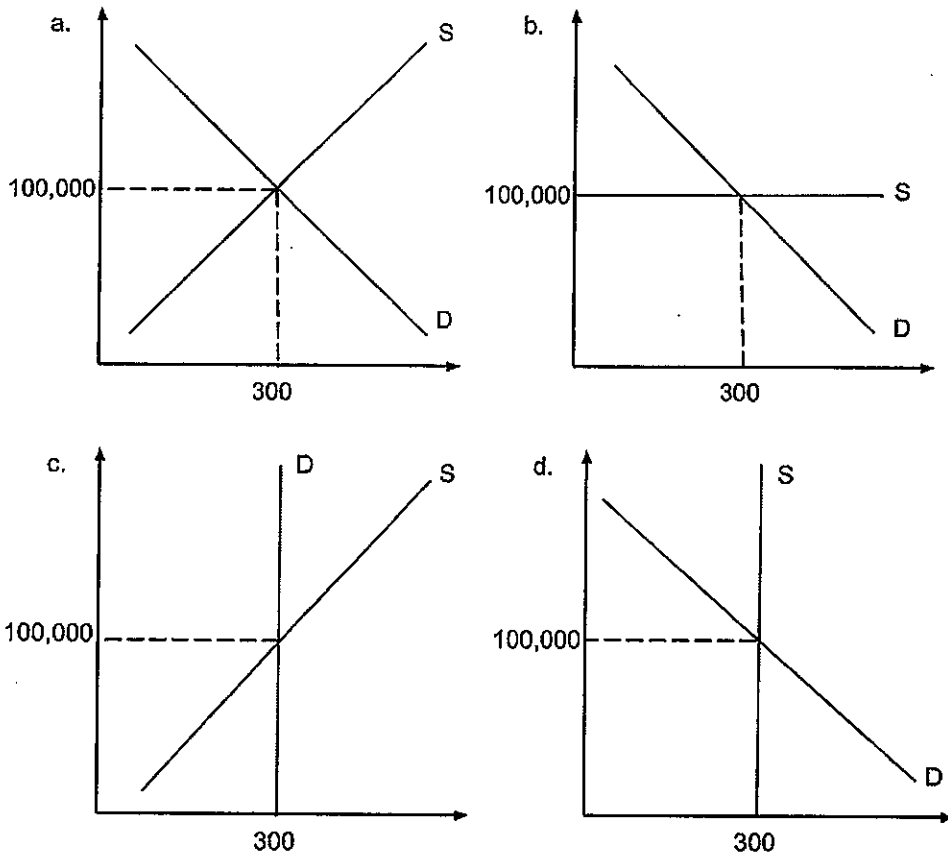
Number of widgets produced	Marginal revenue from sale of widgets	Marginal cost of labour
1	\$5	\$1
2	\$5	\$1.25
3	\$5	\$2
4	\$5	\$3.75
5	\$5	\$5
6	\$5	\$6.50

- a. 4
- b. 5
- c. 6
- d. None of the above

**Question 20**

Ducati, an Italian manufacturer of motorcycles, has decided to create a limited edition production run of 300 motorcycles. Ducati has not set an official sale price. However, analysts predict that each motorcycle will sell for about \$100,000.

Which of the following diagrams best illustrates the market for this product?



**Question 21**

Which of the following government policies is most effective at addressing the causes of cost-push inflation?

- a. Decreasing government spending
- b. Labour market reform to increase productivity
- c. Reducing income tax rates
- d. Reducing the rate of the GST

**Question 22**

Which of the following policy goals is most likely to be achieved through a more decentralised labour market system?

- a. An increase in structural unemployment
- b. Increase in private savings
- c. Reduced income and wealth inequality
- d. An increase in productivity



**Question 23**

One of the concerns associated with governments running deficits is the crowding out effect. Which of the following is true about the crowding out effect?

- a. The globalisation of equity markets has mitigated the problems associated with the crowding out effect
- b. An increase in government spending may decrease aggregate demand in an economy
- c. An increase in government spending does not create an incentive for individuals to save
- d. The crowding out effect will be equal irrespective of whether the economy is in a recession or a boom

**Question 24**

After the election of a new prime minister, a fictional country, Equalia, has established a basic minimum wage for all cleaners in the country. The constitution of Equalia is centralised around treating all individuals as equals, designating a proportional taxation system, promoting the creation of labour unions, and providing free cleaners for all families with a baby under 6 months. Which of the following statements is true?

- a. The more inelastic the demand for cleaners, the more taxation revenue the government will make
- b. A minimum wage will always lead to the unemployment of some cleaners
- c. A minimum wage will always reduce the surplus of cleaners in Equalia
- d. If the demand of cleaners is highly elastic, cleaners will be better off under the imposition of a minimum wage, than if the demand of cleaners was highly inelastic

**Question 25**

It is illegal, under Australian law, to enter into an arrangement with another business to collude and set prices together. This is known as price fixing and is prohibited by the Australian Government because such conduct reduces competition in a market. Which of the following is true?

- a. Price fixing is only regulated by ASIC
- b. If two firms decide to price fix in a market with perfect competition, there will be no effect on price or quantity produced in the market
- c. In a market with monopolistic competition where price fixing takes place, the price is likely to be higher than if the price fixing did not take place, but it is uncertain if less goods will be sold
- d. There will not be a significant effect on competition in a market where businesses decide to fix the quantity of goods that they collectively sell (as opposed to fixing the price)

**Question 26**

A country decides to implement a cap on the price of petrol after being concerned that the high price of petrol was prohibitive to social mobility. Which of the following is likely to be true following the imposition of this cap?

- a. The more elastic the demand for petrol, the smaller the decrease in quantity demanded for petrol
- b. A price ceiling will always create inefficient outcomes in a market
- c. If petrol is highly inelastic in supply, there would not be as big an increase in excess demand as there would be if petrol was highly elastic in supply
- d. A price ceiling may create excess supply in a market

**Question 27**

At the movies, you and your friends order a giant tub of popcorn. You plan to share this popcorn throughout the entirety of *Keynes v Hayek*, a thrilling blockbuster that encapsulates the drama, tragedy and comedy of the theories they established and their longstanding rivalry (unfortunately the movie has not grossed well, and has been critically panned). Worried that the popcorn will be consumed before you get your fair share, you all eat the popcorn ravenously, and consume all the popcorn as fast as you can before the movie starts. As a result, you get a bellyache, feel sick during the movie and cannot enjoy the film.

Which of the following theories explains why you all ate the popcorn so quickly?

- a. Negative externalities
- b. Moral hazard
- c. Crowding out effect
- d. Tragedy of the commons

**Question 28**

Simone is head of her nation's central bank. The economy has a flexible exchange rate and due to Simone's efforts, is in long run equilibrium. She notes a higher rate of inflation in the long run. The bank's most likely response is to \_\_\_\_\_, which may result in \_\_\_\_\_.

- a. Revalue the exchange rate; declining net exports
- b. Devalue the exchange rate; decreasing consumer expenditure
- c. Implement a contractionary monetary policy; a real exchange rate appreciation
- d. Implement an expansionary monetary policy; a real exchange rate depreciation

**Question 29**

Suppose that, in a financial market, both the Australian Federal Government and the Australian State Governments can sell bonds to private investors.

Which of the following explains why an interest risk premium exists for investors choosing to buy State Government bonds over Federal Government bonds?

- The State Government passes legislation giving profits earned on State bonds tax-exempt status
- Standard and Poor's downgrades the Bond Ratings of the Federal Governments from A- to BBB+
- Federal Government bonds are less widely traded than State Government bonds
- None of the above

**Question 30**

South Arabia and Iran are two major oil producers and bitter geo-political rivals. Recently the price of crude oil fell to \$20 a barrel, compared to over \$100 in 2014. These two producers are deciding whether to cut production, or maintain production. The table below shows the choices that the two countries can make, and their consequences.

	South Arabia cuts production	South Arabia does not cut production
Iran cuts production	Oil price rises to \$50/barrel	Oil price rises to \$30/barrel
Iran does not cut production	Oil price rises to \$30/barrel	Oil price falls to \$10/barrel

The following table contains data for oil production for South Arabia and Iran.

	Before production cut	After production cut
South Arabia	10,000,000	5,000,000
Iran	10,000,000	5,000,000

Assume that the two countries are both rational actors who cannot collude, which set of choices will they make?

- Both cut production
- Both do not cut production
- SA cuts, Iran does not cut
- There is not enough information to determine the outcome

**Question 31**

Australia and Japan each produce computers and phones in the quantity shown below and engage in free trade. Japan introduces a tariff on both products. Of the following, what is the most likely outcome?

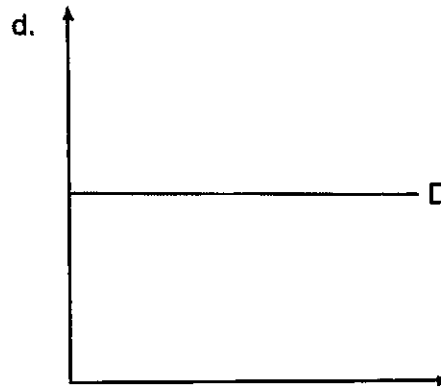
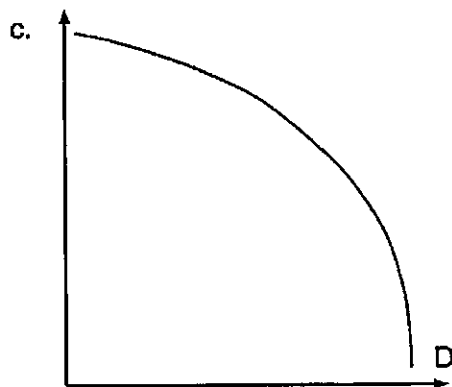
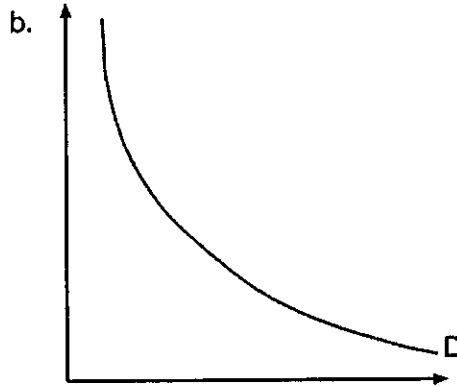
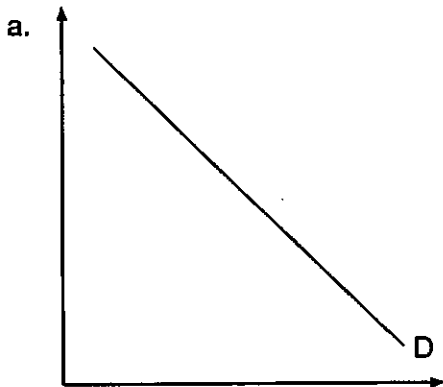
	Australia	Japan
Computers	600	500
Phones	400	300

- a. The price of computers increases in Japan
- b. The price of both computers and phones increase in Japan
- c. The price of phones increases in Japan
- d. The price of both computers and phones decrease in Japan

**Question 32**

Which of the following diagrams best represents the demand curve of a good with constant unit elasticity?

Note: The formula for price elasticity of demand is given by:  $\frac{\% \text{ change in } Q}{\% \text{ change in } P}$



**Question 33**

Bob decides to see a movie. He catches the train into the city for \$5, and is about to pay \$10 for a movie ticket when his friend calls him and invites him over for coffee in a café nearby instead. The coffee will cost \$5.

Bob is willing to pay up to \$20 to see the movie. Bob values spending time with his friend at \$30.

What is the opportunity cost to Bob of going to meet with his friend instead of seeing the movie?

- a. \$10
- b. \$5
- c. \$15
- d. \$20

**Question 34**

In a city, a brand new device called a ControlTech has been devised in 2015. This device can track a car, after it is broken into, and is very effective in tracking down cars that have been broken into. Cars with a ControlTech device installed in it all have a very obvious sticker attached to the car.

Suppose that, in 2016, the government decides to create a law banning individuals from placing stickers on their car. Assuming that all criminals are rational and assuming the same number of break-ins take place, which of the following will occur between 2015 and 2016:

- a. More cars with a ControlTech device will be broken into, and fewer cars without a ControlTech device will be broken into
- b. Fewer cars with a ControlTech device will be broken into, and fewer cars without a ControlTech device will be broken into
- c. You cannot determine whether more or fewer cars with a ControlTech device will be broken into, but you can definitely say that fewer cars without a ControlTech device will be broken into.
- d. You can definitely say that fewer cars with a ControlTech device will be broken into, but you cannot determine whether more or fewer cars without a ControlTech device will be broken into.

**Question 35**

Coase's theorem states that if transaction costs are very low, parties affected by externalities will negotiate a more efficient outcome.

Suppose that Alison and Michelle are roommates. Alison likes to study in silence and values this at \$600. Michelle, on the other hand, likes to play loud music after staying out all morning. She values this at \$250. No one else has a problem with Michelle's music and so Alison cannot legally force her to turn it off. Using Coase's theorem, what would Alison plausibly pay Michelle and would also ensure the most efficient outcome?

- a. \$225
- b. \$805
- c. \$645
- d. \$375

**Question 36**

The Solow-Swan model describes the relationship between factors of production (capital and labour) and the level of total output in an economy. It is given by the following equation:

$$Y = AK^\alpha L^{1-\alpha}$$

Note that A represents the level of productivity, whilst  $\alpha$  represents the portion of GDP that is paid to capital. K represents the amount of capital, whilst L represents the amount of labour.

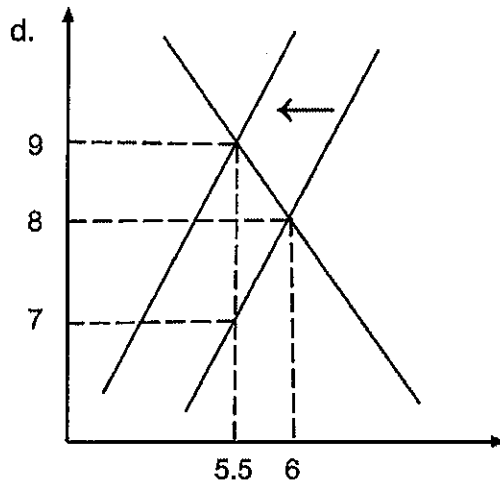
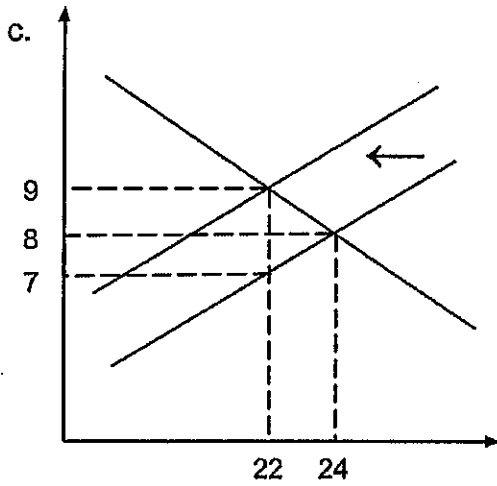
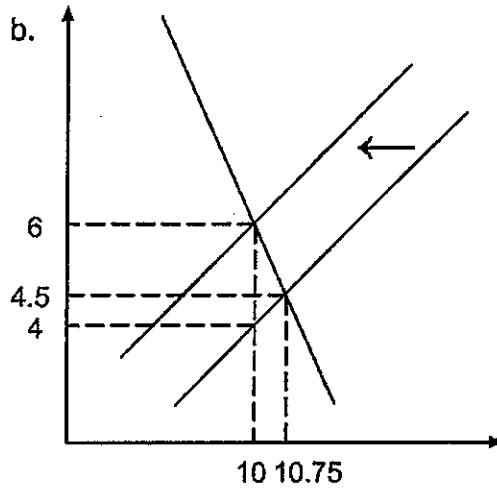
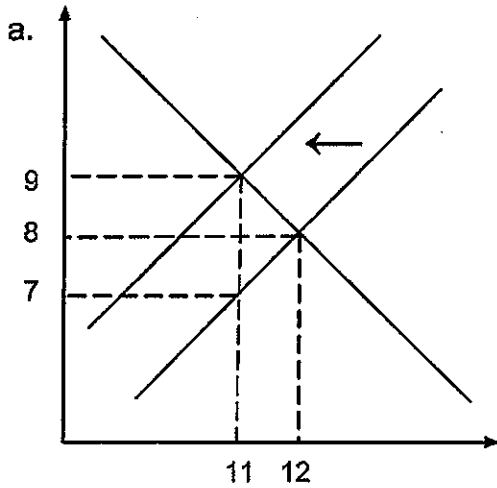
According to this model, which of the following is true?

- a. Doubling the amount of labour will double the level of total output
- b. Doubling the amount of capital and labour will quadruple the level of total output
- c. Suppose that an economy decided to double their capital and labour. The change in output would be no different than if the portion of GDP paid to capital increased by 10% in an economy, and that economy then decided to double its capital and labour.
- d. The model concludes that, as long as the portion of GDP paid to capital is greater than 50%, you should invest more in capital as it will yield greater increases to total output.

**Question 37**

Deadweight loss refers to a loss of economic efficiency that can occur when equilibrium for a good or service is not achieved or is not achievable.

The government is considering implementing a \$2 per unit tax on production of a certain good to raise revenue. The government wishes to minimise distortions in the market. On which of the following markets should the government impose a tax?



**Question 38**

An economist has worked out that the marginal social cost of smoking a cigarette stick is the same for all cigarette sticks, irrespective of their price - \$2.50 per cigarette. Cigarette sticks are harmful to one's health – causing significant health problems for consumers and the general public – and are always purchased in packs of either 10, 20 or 30. Cigarettes are also a major burden on the Australian public health system. The average cigarette stick costs \$5, whilst equal shares of smokers purchase the 10, 20 or 30 packs.

The Government is deciding to take action to reduce the purchase and use of cigarettes. Which of the following would most accurately internalise the externality arising from the smoking of a cigarette stick?

- a. A tax of \$50 per packet of cigarettes
- b. A tax of 50% on all cigarette sticks
- c. A tax of 33% on all cigarette packs
- d. Ban 20 and 30 packs, and put a tax of \$25 on 10 packs of cigarettes

**Question 39**

The following table shows data for a hypothetical economy.

Year	CPI	Unemployment	Real GDP
Year 1	105	15%	\$800 billion
Year 2	120	17%	\$750 billion

Which of the following statements best explains the data in year 2 compared to year 1?

- a. The economy is suffering from a negative supply shock
- b. Aggregate demand in the economy has significantly decreased
- c. The central bank is undertaking expansionary monetary policy
- d. The government has cut taxes to stimulate the economy



**Question 40**

When rational individuals make decisions, they consider the benefits and costs that arise from making the decision. Hence, assuming that criminals are rational, they consider the probability of any potential benefits to their crime against the probability of any costs that they will incur.

It is illegal, under Australian criminal law, to steal items. Theft can be punished by a fine of up to \$100,000 and/or 10 years jail.

The Government is currently in a budget surplus - the cost to society to put someone in jail is \$3000 per year and the police are able to find the thief and prosecute them in 50% of situations.

John is deciding whether to steal a car. Whilst John values the car at \$30,000 if he were to use it himself, the car can be purchased new for \$100,000. It can also be sold second-hand at a 60% discount. John is scared of jail, and jail would be a strong deterrent – the 'cost' of him going to jail would represent \$20,000 per year.

Which of the following punishment would be the most efficient punishment for the court to impose, and would be just sufficient to deter John from stealing the car?

- a. \$30,000
- b. \$40,000
- c. 1.5 years jail
- d. 2 years jail

# 2016

## AUSTRALIAN ECONOMICS AND BUSINESS STUDIES COMPETITION

### About the Organisers

This Competition is run annually by a non-profit organisation within the UNSW Business School. The aim is to stimulate high school students' interest in business and economics, and lay the path for potential careers in the business world, government and academia.

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