

CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Subsidiary Level

THINKING SKILLS

8436/01

Paper 1 Multiple Choice

October/November 2003

2 hours

Additional Materials: Multiple Choice Answer Sheet
Soft clean eraser
Soft pencil (type B or HB is recommended)

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

There are **50** questions on this paper. Answer **all** the questions.

For each question there are five possible answers **A, B, C, D** and **E**. Choose the one you consider correct and record your choice in pencil on the separate answer sheet.

Read very carefully the instructions on the answer sheet.

INFORMATION FOR CANDIDATES

Each correct answer will score one mark. A mark will not be deducted for a wrong answer.

This document consists of **27** printed pages and **1** blank page.



Q1 – 6 Study the following scenario and answer **Q1 – 6**

Timothy Fescue earns his living cutting and trimming lawns. He uses the following formula to decide how much to charge his clients (subject to a minimum charge of \$3):

12 cents per square metre of area cut + 8 cents per metre of perimeter trimmed

When estimating the time a job will take he applies the formula:

30 seconds per square metre of area + 20 seconds per metre of perimeter trimmed.

Most of Timothy's clients have lawns that are rectangular or square, but a few have circular lawns. He uses the following methods of computation to calculate the area and perimeter of circular lawns for charging purposes.

Area

Step 1: Divide the diameter (maximum width) by 2.

Step 2: multiply the answer to step 1 by itself.

Step 3: multiply the answer to step 2 by 3.

Perimeter

Multiply the diameter by 3.

- 1 The largest circular lawn that Timothy cuts and trims belongs to Mr and Mrs Lea. It has a diameter of 20 metres.

What does Timothy calculate the area of the Leas' lawn to be?

- A 60 square metres
- B 300 square metres
- C 900 square metres
- D 1200 square metres
- E 3600 square metres

- 2 Mr Reed's lawn, which Timothy has just finished cutting and trimming, is 10 metres by 10 metres square.

How much will Timothy charge Mr Reed?

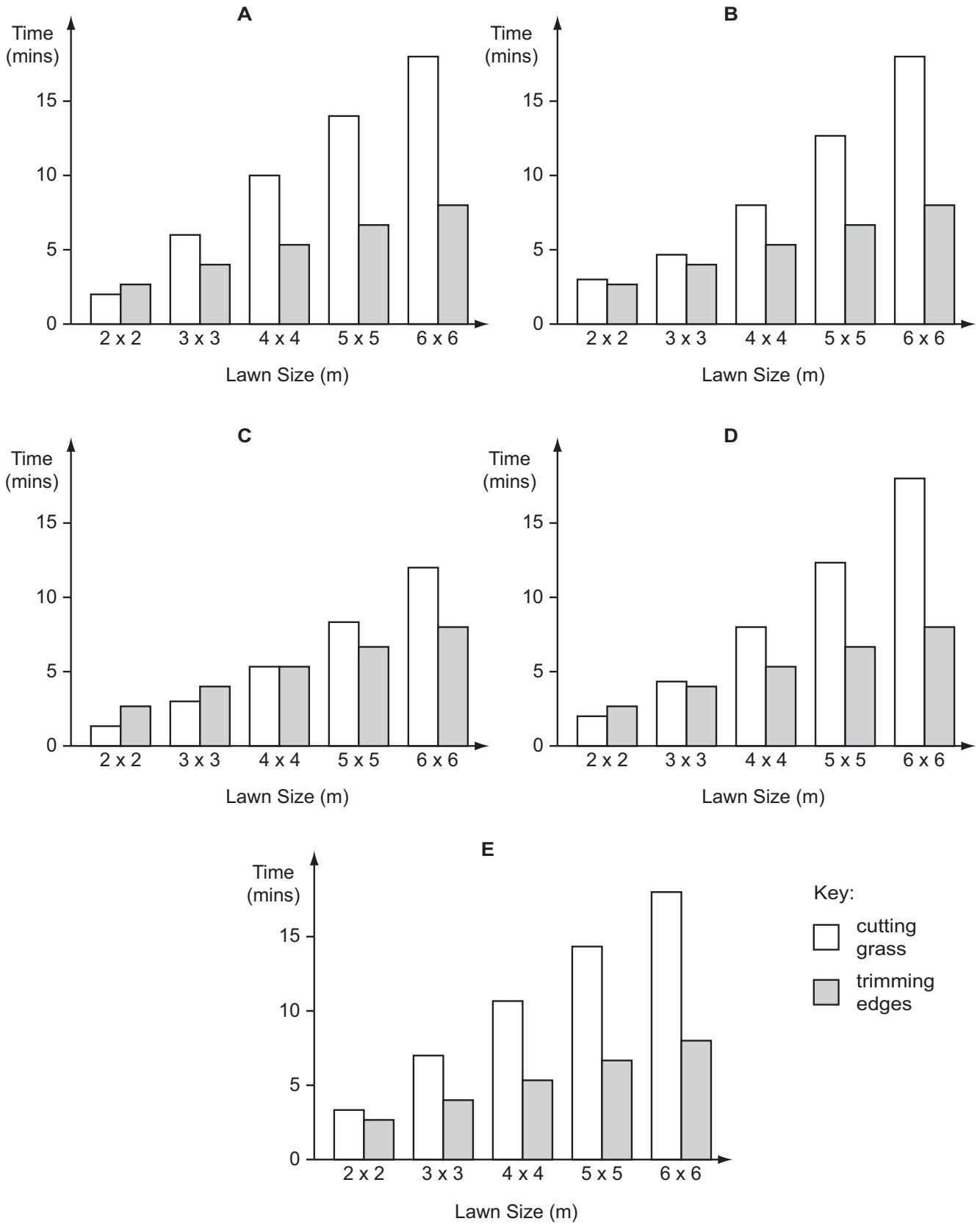
- A \$11.40
- B \$12.80
- C \$13.60
- D \$14.00
- E \$15.20

- 3 Timothy has been booked by Mrs Green to cut and trim her 9 metres by 6 metres rectangular lawn at 3.15 pm.

At what time does Timothy estimate he will complete the work on Mrs Green's lawn?

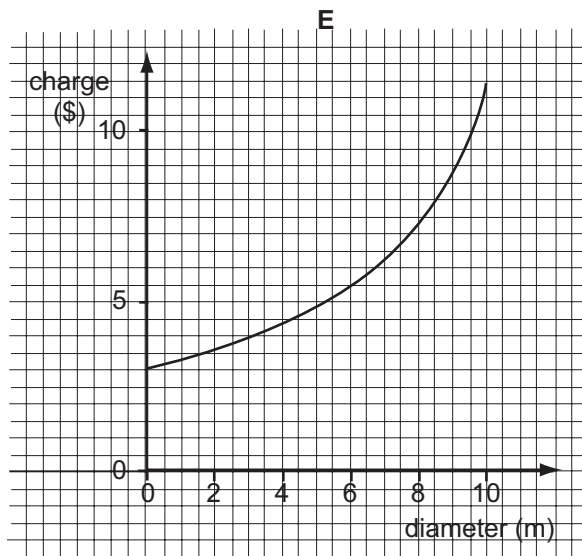
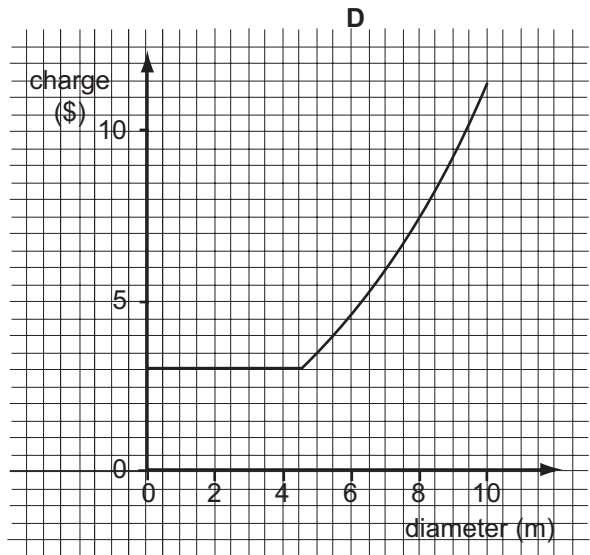
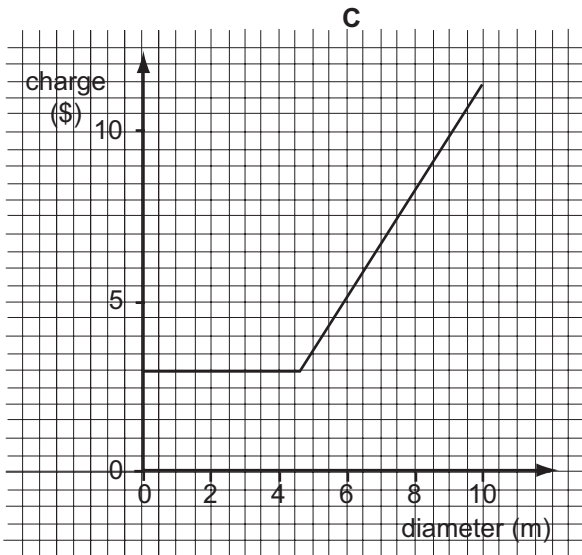
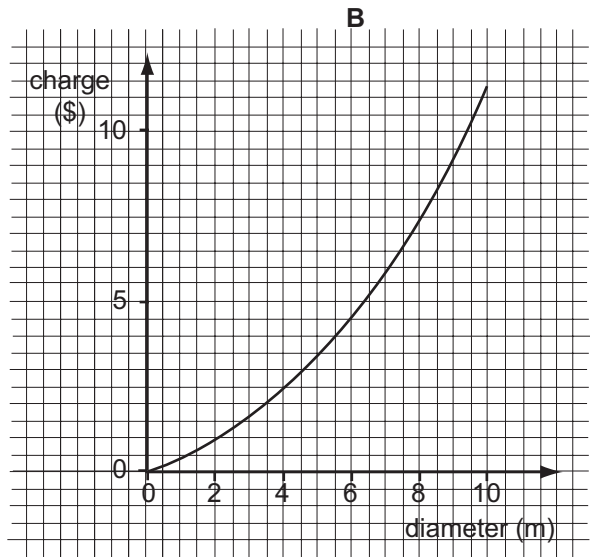
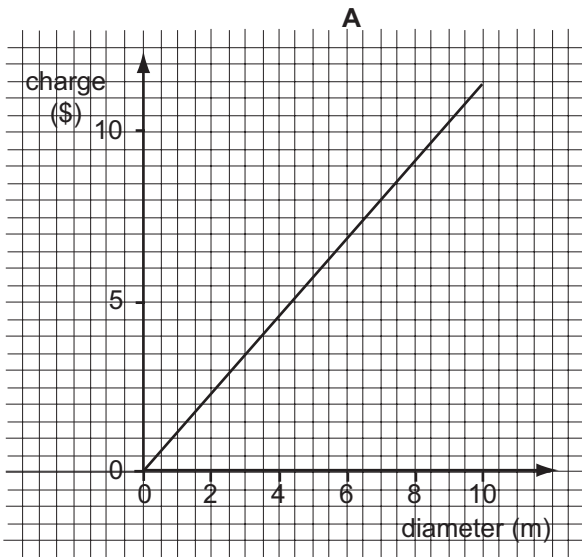
- A 3.27 pm
- B 3.37 pm
- C 3.42 pm
- D 3.52 pm
- E 3.57 pm

4 Which of the following charts shows how Timothy's estimated time taken to cut grass and trim edges varies with increasing size for square lawns?



- 5 Which of the following is a formula that Timothy can use to calculate how much he should charge (in cents) for cutting and trimming a rectangular lawn?
- A (8 x length multiplied by width) + (12 x length and width added together)
 - B (8 x length multiplied by width) + (24 x length and width added together)
 - C (12 x length multiplied by width) + (8 x length and width added together)
 - D (12 x length multiplied by width) + (16 x length and width added together)
 - E (30 x length multiplied by width) + (40 x length and width added together)

6 Which of the following graphs illustrates the relationship between Timothy's charge for cutting and trimming a circular lawn and the lawn's diameter?



Q7 – 12 Study the following scenario and answer **Q7 – 12**

The country of Skilly has a population of only 5000 and has just two schools. Children attend the Lower School for 5 years from the age of 6 to 10, then they go to the Upper School for 5 years from the age of 11 to 15. They may then leave to start work or move on to the National College.

The numbers in each year group in the academic year 2001 are as follows:

LOWER SCHOOL					
Year	1	2	3	4	5
Number	90	87	92	104	106
TOTAL					479

UPPER SCHOOL					
Year	1	2	3	4	5
Number	85	94	110	103	96
TOTAL					488

Each year of each school has 4 classes. Pupils stay in their classes for all lessons.

Due to the small number of pupils, there is a limited curriculum in the Upper School. The subjects taught are: Mathematics, Skillian, PE and Art (all having 4 lessons a week) and Science, Humanities and Languages (each taught for 8 lessons a week). This makes a total of 40 lessons, 8 each day from Monday to Friday. There are 25 teachers, all with the same workload, some of who teach more than one subject.

A survey was carried out into how the pupils made their journeys to school. The results were as follows:

	Lower School	Upper School
Cycle	51	118
Walk	227	175
Bus	118	143
Car	73	38
Absent	10	14

7 If no children move in or out of Skilly, how many pupils will there be in the Upper School in 2004?

- A 468 B 470 C 481 D 488 E 499

8 How many lessons does each teacher in the Upper School teach per week?

- A 8 B 25 C 29 D 32 E 40

9 The students of the Upper School vote for a student representative on the Governing Body. All students returned their voting slips but 8 registered no preference. There were three candidates: Anna won with 70 votes more than Ben who in turn had 85 more than Carla.

How many votes did Anna get?

- A 235 B 237 C 245 D 263 E 325

10 In two years, the government is to introduce a rule that there must be no more than 25 pupils in each class in the Upper School.

How many extra teachers will be needed if none are to teach more lessons than they do now?

- A 1 B 2 C 3 D 4 E 5

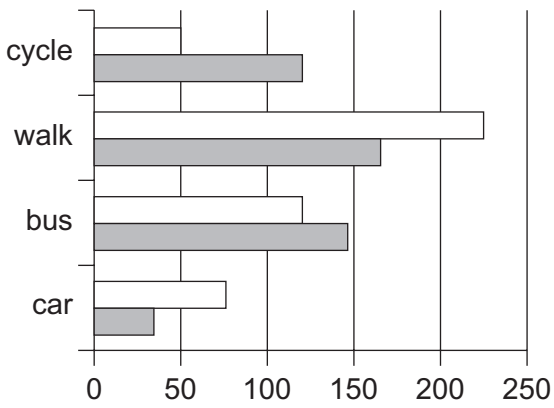
11 In the top year of the Lower School all the children participate in a backgammon competition. They are divided as equally as possible into eight groups. Within the groups all children play each other once. The 8 group winners play a knockout competition, half being eliminated in each round until a winner is found. It is not possible to tie a match.

What is the minimum number of matches that the eventual winner must have played this year?

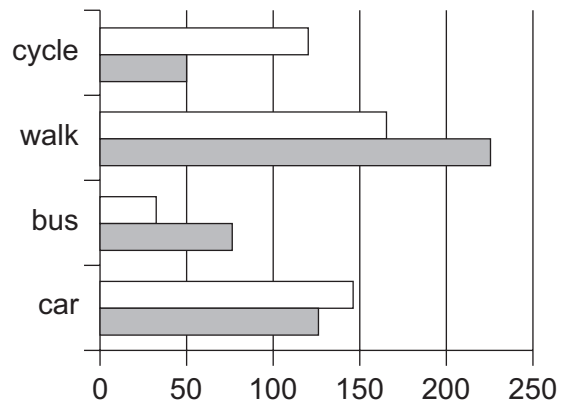
- A 6 B 7 C 15 D 16 E 17

12 Which of the following bar charts best represents the methods of transport used by the children to get to school, according to the survey?

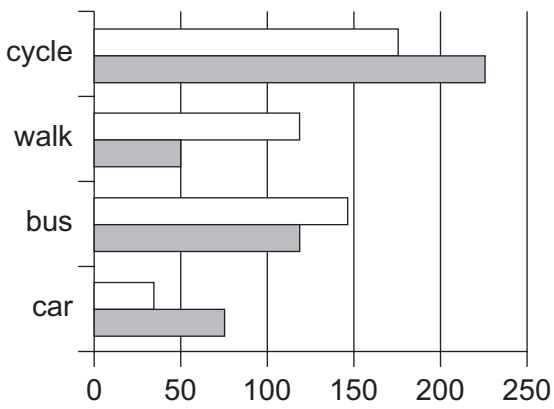
A



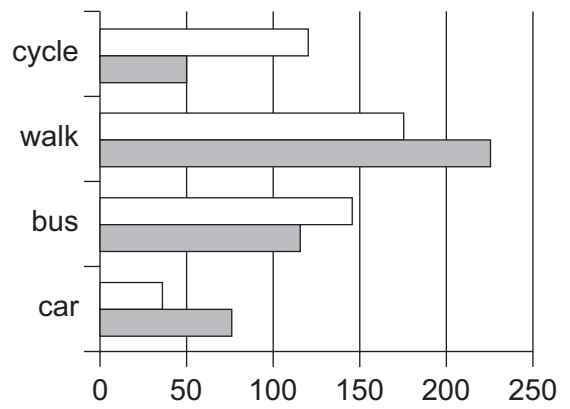
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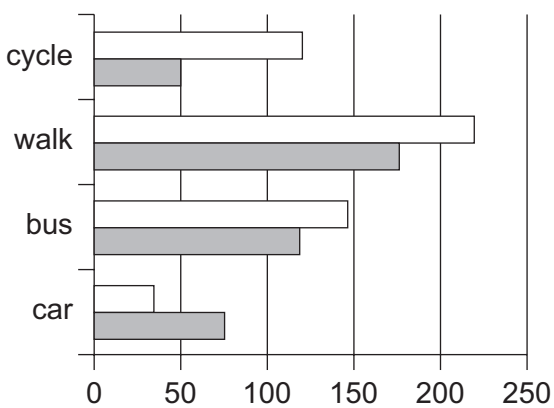
C



D



E



key
 □ upper school
 ■ lower school

Q13 – 18 Study the following scenario and answer **Q13 – 18**

There are three car parks in Catsham.

Alpha Street (300 spaces) is a long stay car park, intended for use by office and shop workers during the week.

The entrance is open between 8 am and 9 pm only (Monday to Friday), though it is usually full before 9 am. The exit is always open.

Drivers pay the attendant \$20 upon entry. However, a driver who leaves during the day can claim a refund of \$2 for each complete hour remaining before 6 pm. The refund is given in the form of tokens worth \$2 each which may be used towards future parking payments at any of Catsham's car parks.

At Beta Lane car park (250 spaces) drivers collect a ticket at the entrance, stamped with the time of entry, and pay the attendant as they leave. It is popular because drivers do not have to commit themselves in advance to a maximum parking time (unlike Gamma Road car park).

It opens everyday at 8 am and closes at 8 pm.

The charge for parking at Beta Lane is:

"\$5 (minimum charge) for up to 2 hours + \$1.50 for every extra hour or part of an hour"

Gamma Road (400 spaces) has the advantage of always being open, and it is very rarely full. On arrival drivers purchase a ticket from a machine in advance for the number of hours they expect to park.

Gamma Road Car Park Charges:

Up to 1 hour	\$4
Over 1 hour up to 4 hours	\$8
Over 4 hours up to 7 hours	\$12
Over 7 hours up to 10 hours	\$16
Over 10 hours up to 12 hours	\$20

(maximum time allowed 12 hours)

Penalty for parking without valid ticket displayed	\$100
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- 13** At 3 pm each weekday afternoon the supervisor calls at the Alpha Street car park to see if the attendant needs more tokens.

When Asif is on duty at Alpha Street he uses the following method of computation to decide how many more tokens to ask for:

Step 1 – Subtract the number of cars that have already left so far today from 300, then divide the answer by 4.

Step 2 – Multiply the answer to step 1 by $1\frac{1}{2}$.

Step 3 – From the answer to Step 2, subtract the number of tokens unissued, then round up to the next multiple of 10.

It is 3 pm now. 44 cars have already left Alpha Street car park so far today, and Asif has 27 unissued tokens.

How many more tokens will Asif ask for?

- A** 40
 - B** 70
 - C** 100
 - D** 110
 - E** 130
- 14** Simon often visits Catsham to call on clients. He prefers to park in the Beta Lane car park, but when the only available spaces are at Gamma Road he uses the following formula to decide how many hours to pay for:

“Divide the number of clients by 3 then add 2.”

Simon has appointments with 12 clients in Catsham today and has had to park at Gamma Road.

How much will Simon put into the ticket machine?

- A** \$6
- B** \$8
- C** \$9
- D** \$12
- E** \$16

15 It is 5.35 pm and Lucy is about to leave Beta Lane car park.

Her ticket shows that she arrived at 1.20 pm.

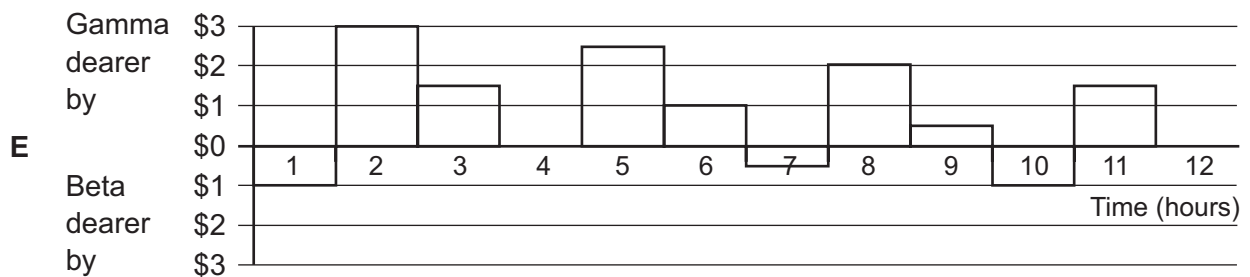
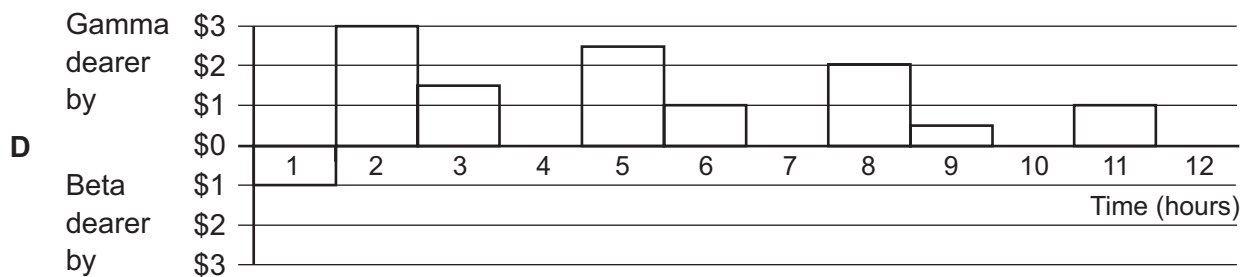
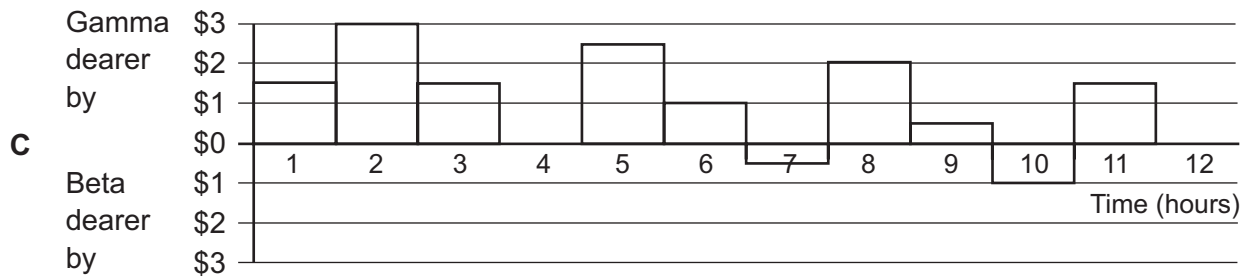
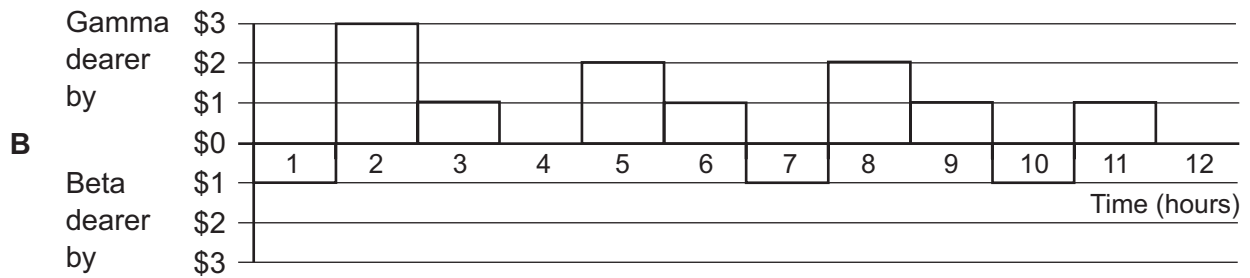
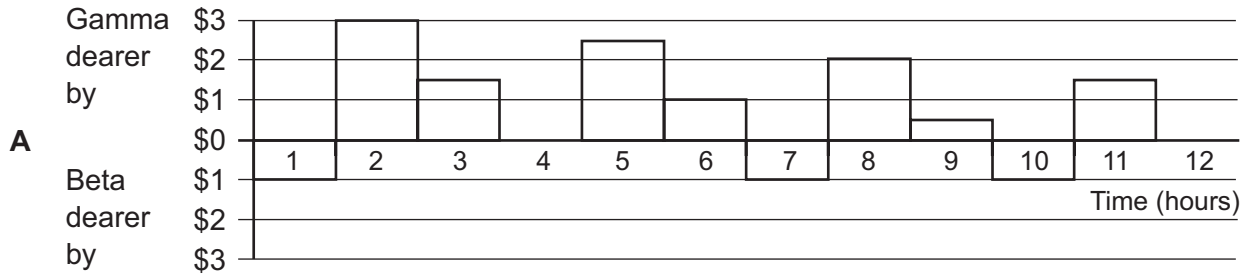
How much will she pay?

- A** \$8
- B** \$9.50
- C** \$11
- D** \$12
- E** \$12.50

16 In terms of overall cost to the motorist, which of the following alternatives is the same as the charge for parking at Alpha Street?

- A** \$2 per hour or part of an hour between 9 am and 6 pm
- B** \$2 to enter + \$2 per completed hour between 9 am and 6 pm
- C** \$2 to enter + \$2 per hour or part of an hour between 9 am and 6 pm
- D** \$4 to enter + \$2 per completed hour between 10 am and 6 pm
- E** \$4 to enter + \$2 per hour or part of an hour between 10 am and 6 pm

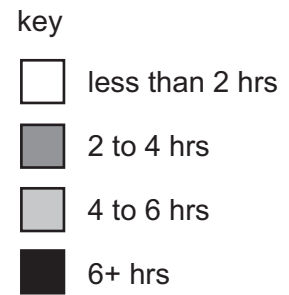
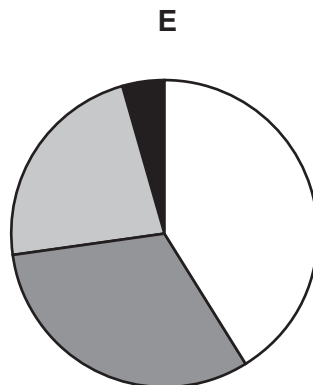
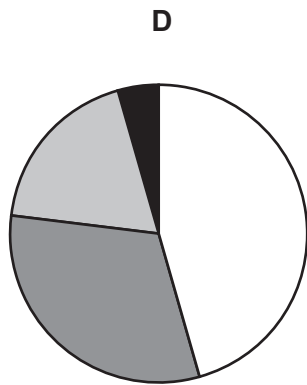
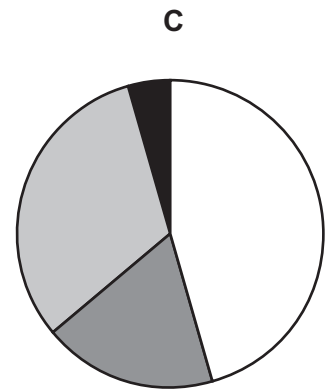
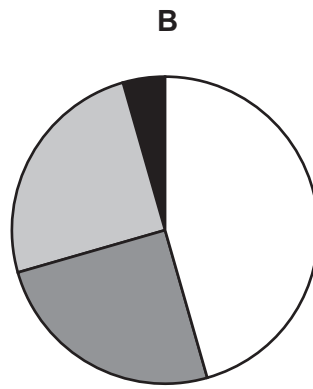
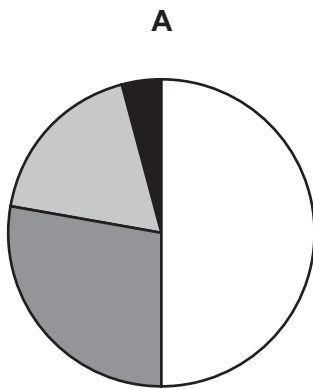
17 Which of the following bar charts shows how the cost of parking in Gamma Road compares with Beta Lane?



18 A survey of cars leaving the Beta Lane car park between 4 pm and 6 pm yesterday afternoon produced these results.

length of stay	No. of cars
less than 2 hours	82
2 to 4 hours	57
4 to 6 hours	33
more than 6 hours	8

Which of the following pie charts correctly shows the results of the survey?



Q19 – 26 Study the following scenario and answer **Q19 – 26**

Two important developments of the late 20th century have been the shopping mall and the theme park. These originated in America but have quickly become global phenomena. At first sight they seem to be different developments. The former would seem to be about catering for needs and to be in the 'realm of necessity', to use an expression of the thinker Marcuse. The latter, on the other hand, seems to be involved with pure pleasure and leisure, what Marcuse has called the 'realm of freedom'; in this realm we go beyond catering for necessities and into a situation where we can do what we want rather than what we have to do. As we will see, these supposed differences in the functions of the mall and the theme park break down on closer analysis; they are essentially the same phenomenon when looked at more closely.

It is clear that the shopping mall aims to be rather more than just a collection of shops. It tries to develop an artificial world where the 'shopper' is protected from both the physical and social elements of the 'real' world. The West Edmonton mall in North America, for instance, offers 110 restaurants, 19 theatres, a five-acre water park and a lake where one can view sharks, octopi, tropical marine life and a replica of the Great Barrier Reef from a submarine. This clearly places the mall in the entertainment sphere with shopping now being only one dimension of leisure rather than being something one has to do in order to get the necessities of life.

The theme park has even greater freedom to build a world of fantasy and escape for the stressed-out. The ultimate theme parks and the inspiration for all the others have to be the two Disneyworlds in the U.S.A. and Europe. In these areas the visitor can experience any culture in the world in re-created form. They can be in Bali one minute and the Swiss Alps the next. Whilst there are aspects of the old fashioned 'funfair' with rides like the 'roller-coaster', it is clear that pleasure and escapism have moved into new and complex forms in these theme parks.

So malls and theme parks are two sides of the same coin. They provide fantasy and spectacle for the entertainment of people and the millions they attract show that there is a demand for these spectacles. The answer to the question of why people visit these elaborate 'pleasure domes' lies in their desire to experience the exotic and unfamiliar within a safe environment. Film and television have given people images of far-off places and things they would like to visit and experience. However, travel is costly and different cultures intimidating. The shopping mall and the theme park provide a 'half-way house' between the screen experience and real experience.

Moreover, as these experiences are an artificial creation, the providers of, for instance, a traditional Paris street scene in a mall or theme park can make sure they match people's preconceptions as built up through television and film. The 'real thing' can often be disappointing.

- 19 Which of the following is the best summary of the main point the above passage is making?
- A The shopping mall and the theme park are now found throughout the world.
 - B The shopping mall and the theme park are different aspects of one phenomenon.
 - C The shopping mall and the theme park allow people to escape into a fantasy world.
 - D The shopping mall and the theme park are both in the 'realm of freedom'.
 - E The shopping mall and the theme park are important late 20th century developments.
- 20 Which of the following is an example of something in the 'realm of necessity'?
- A Driving to the airport to go on holiday.
 - B Shopping for clothes to go to a party.
 - C Eating a meal in a restaurant.
 - D Travelling to work on a train.
 - E Buying fruit to make a diet healthier.
- 21 Referring to paragraph 2, which of the following is an example of something in the 'realm of freedom'?
- A Shopping is taking place in a man-made environment.
 - B Shopping in a mall means people spend more money.
 - C Shopping is only one of the reasons for visiting the mall.
 - D Shoppers do not actually buy anything when they visit malls.
 - E Shopping is now an enjoyable experience.
- 22 Which of the following is **not** implied by what is said in paragraph 3?
- A The Disneyworlds were very important to the later development of theme parks.
 - B People go to theme parks to escape the pressures of modern living.
 - C Theme parks are especially focussed on providing fantasy and escape.
 - D Theme parks are better at creating pleasure and escapism than shopping malls.
 - E Theme parks have some similarities to the old-fashioned 'fun-fair'.

- 23 Which of the following is the best summary of the purpose of the fourth paragraph?
- A It further illustrates the similarities between shopping malls and theme parks.
 - B It provides further evidence to back up the claims in the passage.
 - C It modifies the claims that are made in the first three paragraphs.
 - D It summarises and explains further the appeal of theme parks and shopping malls.
 - E It takes the argument in the passage in a different direction.
- 24 In saying that shopping malls and theme parks are 'two sides of the same coin' the author is suggesting that:
- A The two things are superficially different but fundamentally the same.
 - B The two things are fundamentally different but appear the same.
 - C The two things always occur together.
 - D The two things look the same but are really different.
 - E The two things are only aspects of a larger phenomenon.
- 25 Which of the following best describes the meaning of the phrase 'a half-way house between the screen experience and real experience' in the fourth paragraph?
- A Something that is a mixture of seeing a place on film and actually visiting it.
 - B Something that one can do after seeing a film of somewhere before going to visit the place.
 - C Something that has the safety of the film experience combined with the interest of direct experience.
 - D Something that is more real than the film experience but not as good as actually visiting a place.
 - E Something that takes more effort and cost than a film but less than that needed for actually visiting a place.
- 26 Which of the following is the best expression of the impact of film and television on peoples' experience of travel, according to the author in paragraph 5?
- A Film and television give people a desire to visit new places.
 - B Film and television discourage people from visiting new places.
 - C Film and television create unrealistic expectations of new places.
 - D Film and television substitute for travel to new places.
 - E Film and television mean people are better informed about new places.

Q27 – 34 Study the following scenario and answer **Q27 – 34**

It must be true. Environmental scientists can't be wrong: they've said it so many times. The over-farmed and overgrazed soils of Africa, especially on the fringes of the Sahara, are losing their fertility and eroding away. As the population grows, poor farmers are taking the last goodness from their soils. Their animals graze the grasslands away to nothing and the desert sands move in.

Consider, for example, the dusty desert margins of northern Nigeria around the ancient city of Kano. Here, population density has soared to levels similar to Belgium, and some 85 per cent of the land is now cultivated. Rainfall is declining and the availability of chemical fertiliser has fallen by 80 per cent. Surely these fields should be turning to desert dust as crop yields drop rapidly, hunger spreads and refugees head for the cities?

So why is the reality so different? One of the answers is the now well-organised use of sheep manure, providing a free but excellent fertiliser. Another reason is the planting of crops such as cowpeas, which absorb nitrogen from the air and deposit it in the soil. The key is the integration of crops and livestock, because it enhances nutrient cycling.

Far from being a liability, the high local population densities are actually essential to this form of intensified farming. In a land where tractors are rare, people provide the labour to tend fields, feed animals and spread manure. The traditional environmental view that rising populations cause soil abuse and desertification* is being turned on its head here. As is the idea that livestock are an environmental curse. Far from it, livestock can be an ally of better farming.

Farmers are also intensifying their systems of co-operation, forming gangs to tend each others' fields during busy times, and lending and borrowing land, livestock, and equipment. They also swap seed varieties.

If farmers can maintain soils as they intensify production, can they also use such techniques to rescue their land once it has begun a slide into desertification? The evidence is that they can. Twenty years ago, the Maradi district in southern Nigeria was facing environmental crisis after repeated droughts. Average rainfall was down 30 per cent, the population had doubled in 25 years, soils were crumbling and the last forests were being cut down. Yet, though the rains have never returned to former levels, the millet farmers have fought back, diversifying into growing vegetables, trees and nuts and tending livestock. Desertification has gone into reverse.

Deserts did advance in Africa during the droughts of the 1970s and 1980s. The conventional view at the time was that farmers, at least as much as drought, were to blame, and that the processes were irreversible. But even when, in the early 1990s, satellite images began to show the Sahara retreating during years of higher rainfall, the image of desertification caused by human activity stuck. It became an 'institutional fact', too important for careers and reputations to be lightly dropped. And it is only now that detailed evidence of what has happened to soils and farm productivity in these supposedly doomed regions is finally emerging. The myth of traditional African farmers as both environmental villains and victims is finally being exposed.

*Desertification means the extension of desert conditions to areas where they did not exist in the recent past.

- 27 Which of the following is the best summary of the passage?
- A The expected process of desertification in Africa has been reversed by changes in farming methods.
 - B Traditional farming methods in Africa have had to be abandoned in order to deal with the problems of population growth and reduced rainfall.
 - C Without the pressing problem of desertification, African farming methods would not have changed.
 - D The integration of crops and livestock in African farming has been a necessary response to higher levels of population growth.
 - E Without high population densities, the new African farming methods could not have reversed the process of desertification.
- 28 What is the purpose of the reference to the population density of Belgium?
- A To explain the way in which changes in population density in Kano took place.
 - B To provide evidence of the increase in the use of agricultural land in Kano.
 - C To highlight the speed of Kano's population increase compared to other parts of northern Nigeria.
 - D To emphasize the scale of the increase in Kano's population density.
 - E To emphasize the way in which high population density contributes to desertification.
- 29 What is the best explanation of the function of the fourth paragraph?
- A To show how Kano provides a unique example of farming success.
 - B To question the view that farmers were to blame for desertification in the 1970s and 1980s.
 - C To contradict the idea that high population densities and livestock are a problem for farming in Africa.
 - D To support the argument that, without high population densities, livestock farming cannot work.
 - E To show that the processes which lead to soil abuse and desertification have been misunderstood.
- 30 The author refers to 'the image of desertification caused by human activity' as 'an institutional fact'.
- Which of the following is similar to the author's meaning of 'institutional fact' in the passage?
- A 'environmental crisis'
 - B 'livestock are an environmental curse'
 - C 'farmers are both environmental villains and victims'
 - D 'traditional environmental view'
 - E 'environmental scientists can't be wrong'

- 31 The examples of Kano and the Maradi district of southern Nigeria together show which of the following?
- A How population growth and rainfall reduction can contribute to desertification.
 - B How desertification is not a serious environmental problem.
 - C How farming methods can both avoid and reverse desertification.
 - D How farmers can feed large populations by diversifying crops.
 - E How livestock farming is the key to intensifying production in areas suffering from desertification.
- 32 Which statement would **not** be consistent with the evidence presented about Kano?
- A Cowpeas are one of many nitrogen-producing crops used in Kano.
 - B Sheep manure has not always been efficiently used as a fertiliser in Kano.
 - C Soil abuse in Kano is avoided through a combination of crop production and livestock farming.
 - D Farmers in Kano improve crop yields by sharing labour and equipment.
 - E The intensification of agriculture requires low densities of population.
- 33 According to the passage, what is not a possible cause of desertification?
- A Lack of artificial fertiliser.
 - B Lack of tractors for farming.
 - C Soil abuse.
 - D Over-grazing by animals.
 - E Removal of trees.
- 34 Which is the best description of the meaning of the last paragraph?
- A The belief that farming and drought are the causes of desertification is never questioned.
 - B Recent evidence shows that desertification is not only reversible but is also not a necessary consequence of farming.
 - C The evidence of desertification in the 1970s and 1980s has recently been shown to be false.
 - D Increased levels of rainfall have failed to change the image of increased desertification in the Sahara.
 - E The idea that African farmers are the victims of desertification is a well-established myth.

Q35 – 50 Study the following scenarios and answer **Q35 – 50**

- 35** Yoko and Maria enjoy playing tennis together and so they have booked an outside grass court for 11 am on Saturday morning. It is impossible to play tennis when the grass is wet because the players slip easily and the ball cannot bounce properly. The weather forecast says it will rain early on Saturday morning, but that the rain will have stopped by 9 am. Therefore, Yoko and Maria should have no problem playing tennis outside on Saturday.

Which one of the following is an underlying assumption of this argument?

- A** Playing tennis outside requires more skill than playing inside.
 - B** People who forecast the weather usually get it wrong.
 - C** Saturday is the only day Yoko and Maria are able to play tennis.
 - D** It is possible to play most sports inside as well as outside.
 - E** The wet grass on the tennis court will have dried by 11 am.
- 36** Although some people think that the microwave radiation emitted by mobile phones may damage the brains of users, no conclusive evidence has been found of adverse effects on health. 'Hands-free' kits are claimed to make the use of mobile phones safe because the user does not need to hold the phone close to the head. However, it has been found that the level of radiation reaching the brain when using these kits varies, between a large reduction and no reduction at all, depending upon where the phone and the kit are placed. There is no way that consumers can work out the best position of the kit and the phone in order to reduce radiation.

Which of the following can be drawn as a conclusion from the above passage?

- A** The use of mobile phones is unlikely to have adverse effects on health.
- B** Consumers cannot be certain that it will be safer to use a 'hands-free' kit with their mobile phone.
- C** The use of 'hands-free' kits with mobile phones sometimes increases radiation to the brain.
- D** Consumers will be safer if they do not use a 'hands-free' kit with their mobile phone.
- E** The correct positioning of a 'hands-free' kit prevents any microwave radiation from reaching the brain of a mobile phone user.

- 37** People who work in offices often take home small items each week such as paperclips. These may cost only a few pence each time, and few people would think there is anything wrong with this, but taking something that you haven't paid for is stealing. When multiplied by all the people who work for the company, which may be hundreds, these small items can add up to a considerable amount of money each year. Therefore, it is always wrong to steal, and if enough people act in a wrongful way, the results can add up to something quite serious.

Which of the following best illustrates the principle underlying the argument above?

- A** If someone finds a small item like a scarf in the street, there is probably no need to bother handing it in at the police station.
 - B** If someone in a shop gives you too much change, you should keep it because it will teach them to be more careful in future.
 - C** If there is a beautiful flower bed in a park, it is acceptable to pick a few of them to take home as they will give you enormous pleasure.
 - D** One shouldn't walk on the grass when asked not to, because if lots of people do so, the grass will be ruined.
 - E** If you share a house and run out of milk, it is fine to take a drop of someone else's without replacing it.
- 38** One of the best features of the Internet is said to be that it is a vast store of knowledge. Yet, because there is so much of it, accessing the particular piece of information that you want is at least as time consuming as visiting a library and searching for it there. Also, there is no guarantee that the information itself is reliable, because anyone can put any information on the Internet without the information being scrutinised for accuracy. Hence, the books found in libraries are a far better resource for those who wish to increase their knowledge.

Which of the following is an assumption underlying the above argument?

- A** Most of the information on the Internet is inaccurate.
- B** Visiting libraries is less convenient than using the Internet.
- C** The content of books is likely to be more reliable than that of the Internet.
- D** Many contributors to the Internet aim to mislead Internet users.
- E** Much of the information on the Internet is not useful.

- 39** Human error has been identified as the cause of at least three major disasters – the nuclear disasters at Chernobyl and Three Mile Island, and the chemical leak from a factory in Bhopal. If lack of sleep were to blame for such errors, then we would expect them to occur during the night shift, rather than during day-time working, because it has been established that on average night workers sleep for two hours less per day than day workers. Sure enough, in each of these cases, the critical error occurred at 3 am, so lack of sleep must be to blame.

Which of the following identifies the flaw in the above argument?

- A** It assumes that human error is not the cause of these disasters.
 - B** It assumes that people who work at night do not sleep during the daytime.
 - C** It assumes that tiredness is the cause of most major industrial accidents.
 - D** It assumes that pressure at work is more severe for night-shift workers than for day-time workers.
 - E** It assumes that the errors could not have occurred at night if workers were not suffering from lack of sleep.
- 40** Coffee is a very popular drink around the world, yet the drug it contains, caffeine, has a very strong effect on certain individuals. It can cause insomnia, headaches, palpitations and mood swings, as well as acting as a trigger for severe clinical depression in some people. Other drugs that have similar effects are banned, so coffee should be banned as well. Then people would no longer suffer the negative effects caused by caffeine.

Which of the following, if true, would most weaken the above argument?

- A** Many people depend on coffee to wake themselves up in the morning.
 - B** Coffee contains many other harmless elements besides caffeine.
 - C** Other drinks, such as chocolate, tea and cola also contain caffeine.
 - D** Severe headaches often cause employees to take time off work.
 - E** If coffee were discovered today, it would probably be banned.
- 41** There is much evidence to suggest that cannabis has therapeutic uses for people suffering from medical conditions such as multiple sclerosis. Given this, the prescription of cannabis should be made legal. If doctors were legally allowed to prescribe cannabis, multiple sclerosis sufferers and others might be spared much pain. Moreover, if cannabis could be legally prescribed, it would be possible to conduct large scale surveys to establish whether cannabis really is of benefit in such cases.

Which of the following best expresses the main conclusion of the above argument?

- A** There is no justification for existing laws against cannabis.
- B** Cannabis can relieve the suffering of people with multiple sclerosis.
- C** Doctors are opposed to existing laws on cannabis.
- D** It should be legal for doctors to prescribe cannabis.
- E** Large scale surveys are needed to establish whether cannabis really is beneficial.

- 42** With access to the Internet, many of today's young people have the use of a knowledge base their parents could only have dreamed of. With improvements in Internet technology, access is likely to get faster and it is already relatively inexpensive. All the world's great books will be available in what will be the ultimate library. This will mean that generations to come will be much better educated than previous generations.

Which of the following is an underlying assumption in the above argument?

- A** It assumes current technology enables everyone to have access to the Internet.
 - B** It assumes learning is only possible through the reading and study of books.
 - C** It assumes access to information is a sufficient condition for becoming an educated person.
 - D** It assumes that great thinkers in the past knew very little.
 - E** It assumes that all technological advances are good for society.
- 43** Sleep deficit has been shown to be a contributory cause of accidents, both at work, and on the roads. Most people in industrialised countries get much less sleep than in the past. Instead of sleeping during the hours of darkness, they can work, travel, play sport or watch television. We must conclude that sleep deficit, and any accidents which may result from it, are all the fault of Thomas Edison, because following his invention of the light bulb in 1879, the total amount of time during which people in industrialised countries are asleep has dropped by 25 per cent.

Which of the following identifies the flaw in the above argument?

- A** It assumes that insufficient sleep can be a cause of accidents.
 - B** It implies that people in non-industrialised countries get sufficient sleep.
 - C** It assumes that the invention of the light bulb caused the reduction in the amount of sleep.
 - D** It ignores the fact that many people do not want to watch television all night.
 - E** It assumes that if Edison had not invented the light bulb, someone else would have done so.
- 44** The United States Golf Association (USGA) wants to ban the use of a type of modern golf club called 'metal woods'. The clubs, it argues, give players an unfair advantage by enabling them to hit the ball harder and straighter than they could with other clubs. However, it is unjustifiable for the USGA to seek this ban, in that for years they have approved a long list of technological improvements (such as the use of graphite shafts) which are designed to help golfers play better. But, most importantly, after lengthy and rigorous testing, the USGA had approved the use of metal woods some years ago. The millions of golfers who have bought metal woods since then cannot be expected not to use them.

Which of the following, if true, would most strengthen the above argument?

- A** Metal woods are not used by all golfers.
- B** Manufacturers of golf equipment all produce versions of metal woods.
- C** The size of metal woods has increased significantly in recent years.
- D** The average performance of golfers has not improved significantly since the introduction of metal woods.
- E** Techniques of teaching the skills of golf have improved over the past few years.

- 45** Some dogs have been observed to show signs of excitement and anticipation shortly before their owners return home. In one case, the dog began to get excited at exactly the time its owner got into his car a few miles away in order to drive home. This behaviour is claimed to demonstrate that dogs know when their owner is going to re-appear. But this cannot be the correct explanation, because it implies that the mental abilities of dogs are superior to those of humans. No human being knows, without having been told, the exact time at which their spouse gets into the car several miles away, unless the spouse's timing is a well-established habit.

Which of the following is an expression of the main conclusion of the above argument?

- A** The behaviour observed in the dogs is not excitement and anticipation.
 - B** The mental abilities of dogs are not superior to those of human beings.
 - C** Human beings lack the ability to know what their absent spouses are doing at a particular time.
 - D** The explanation of the dogs' behaviour cannot be that the dogs know when their owner will re-appear.
 - E** It is merely a coincidence that dogs show excitement and anticipation when their owners are about to return.
- 46** The council's new traffic control system may not lead to a reduction in city-centre air pollution, but it will ensure that pollution levels do not increase any more. Exhaust fumes from cars being driven in the city centre are the single most important cause of city-centre air pollution. The more traffic, the more pollution. The traffic control scheme will prevent further increases in city-centre traffic - and thus further increases in city-centre air pollution.

Which of the following is the best statement of the flaw in the argument above?

- A** It ignores the possibility that the traffic control scheme might not be implemented.
- B** It fails to make comparisons with other cities in which traffic control schemes have been introduced.
- C** It ignores the possibility that factors other than traffic may cause continued rises in pollution.
- D** It does not explain how the traffic control scheme is going to prevent increases in traffic.
- E** It fails to provide figures for air-pollution in the city over a period of time.

- 47** At present there is a lack of money to provide extra uniformed police on the street. Proposals to recruit volunteers from the community to help the police, however, could threaten public safety. The volunteers themselves would often be placed in dangerous situations, and the public would be less safe than if experienced, trained police officers were present at a violent incident.

Which of the following, if true, would most weaken the above argument?

- A** People have less self-respect if they are not being paid for something.
 - B** More police officers on the street may not necessarily reduce crime.
 - C** It will never be possible to eradicate crime entirely.
 - D** New police officers are as inexperienced as new volunteers.
 - E** People who do a job well should be paid accordingly.
- 48** There are good reasons for graduates to consider a spell of unpaid voluntary work following their graduation. Unpaid work increases a person's chances of getting a paid job; it helps one acquire new skills, and provides contacts who might help with leads for unadvertised vacancies. Going on the dole* offers none of these advantages. Graduates unable to find a job should therefore seek unpaid voluntary work in preference to the dole if they can afford the loss of income.

* Dole refers to money which unemployed people get from the government.

Which of the following, if true, would most weaken the argument in the above passage?

- A** A stint of unpaid voluntary work looks better on one's job application form than a period on the dole.
- B** People in unpaid voluntary work are often unable to claim government benefits as a result.
- C** The skills acquired from unpaid voluntary work are applicable to a wide range of paid jobs.
- D** The amount of unpaid voluntary work available is restricted, and not everyone can find such work.
- E** People in unpaid voluntary work have much less time to look for paid jobs than people on the dole.

- 49** A clear trend over the last forty years in industrialised countries has been the rise in the number of people in jobs requiring qualifications and the decline in unskilled jobs requiring heavy physical labour. This has been due, on the one hand, to the increased educational levels of the population of such countries, which results in people wanting jobs appropriate to their qualifications. On the other hand, the demand for jobs involving heavy physical labour has declined due to new technology. Manual jobs created muscular strain and damage to joints that led to later health problems such as arthritis among workers. Therefore, work will not be the cause of these health problems in the future.

Which of the following is an assumption underlying the above argument?

- A** These health problems cannot also be caused by work requiring qualifications.
 - B** The population will get healthier as result of the decline of manual work.
 - C** Heavy manual work is only a characteristic of industrial societies.
 - D** These particular health problems are only caused by work.
 - E** These are the only health problems caused by work.
- 50** If very harsh punishments were an effective deterrent, there would have been no pickpocketing at the scene of public executions in the 18th century. In fact pickpocketing was rife at these occasions. Clearly harsh punishments do not deter. Since there would only be good reason to increase the severity of sentences if this increased the deterrent effect, current proposals to impose heavier sentences on convicted criminals are pointless.

Which of the following is an underlying assumption of the above argument?

- A** People will not steal, even if desperate, if the penalties are severe.
- B** People would be deterred from community crimes if they thought they were likely to be caught.
- C** The punishment for pickpocketing in the 18th century was very severe.
- D** Deterrence is the only justifiable reason for sending criminals to prison.
- E** Heavier sentences will not stop prisoners from re-offending after their release.

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