



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education
Advanced Subsidiary Level and Advanced Level

THINKING SKILLS

9694/01

Paper 1 Multiple Choice

October/November 2008

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 **40** 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. Ignore responses numbered 41 – 50 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 **26** printed pages and **2** blank pages.



- 1 Margaret is planning to use an old recipe of her Canadian grandmother to bake some cakes for a charity event. According to the recipe, the ingredients required for one cake are:

1 cup of butter
1 cup of milk
2 cups of sugar
3 cups of flour
4 eggs

As she hasn't got time to go shopping, Margaret must make do with what she already has at home:

800g of butter
1.5 litres of milk
1.5kg of sugar
2kg of flour
Two dozen eggs.

She also finds the following conversion table:

1 cup of butter = 180g
1 cup of milk = 225 millilitres
1 cup of sugar = 225g
1 cup of flour = 120g

How many full-size cakes can Margaret prepare with the available materials?

- A 3
- B 4
- C 5
- D 6
- E 7

- 2 When Mary won \$3360 on a TV quiz programme she decided to give it to her two grandchildren, Susan and Luke, to be shared between them in the ratio of their ages.

5-year-old Luke complained that it wasn't fair that his older sister should get more than him. His mother sympathized, but told him to be thankful that his grandmother hadn't won the money next month (after Susan's birthday) when he would have received \$70 less, or last month (before his birthday) when he would have received \$160 less.

How much of Mary's \$3360 did Luke receive?

- A \$ 840
 - B \$ 1050
 - C \$ 1120
 - D \$ 1200
 - E \$ 1400
- 3 I overheard part of a conversation today in which one person said 'in my 4-digit PIN the first two digits are my house number, the middle two digits are a prime number and the last two digits are a square number.'

'That's careless talk,' I thought. 'Now we all know the last digit of your Personal Identification Number.'

What is the last digit of this person's PIN?

- A 1
- B 4
- C 5
- D 6
- E 9

- 4 The following tables show the number of children in families visiting a major tourist attraction.

| Mexico | |
|--------------------|-----------|
| Number of children | Frequency |
| 0 | 5 |
| 1 | 6 |
| 2 | 5 |
| 3 | 4 |
| 4+ | 3 |

| USA | |
|--------------------|-----------|
| Number of children | Frequency |
| 0 | 3 |
| 1 | 4 |
| 2 | 4 |
| 3 | 2 |
| 4+ | 0 |

| Canada | |
|--------------------|-----------|
| Number of children | Frequency |
| 0 | 0 |
| 1 | 4 |
| 2 | 7 |
| 3 | 2 |
| 4+ | 0 |

49 families were surveyed in total.
You can assume that no child is counted in more than one family.

Ignoring the usefulness of the statistics, which one of the following averages could **not** be calculated from the above information alone?

- A The mean number of children per family from Canada.
 - B The mean number of families per child from the USA.
 - C The mean number of families per row in the table from Mexico.
 - D The mean number of families per country in the survey.
 - E The mean number of children per family from Mexico and the USA.
- 5 I have just eaten the contents of a 225g pot of fruit salad. It contained 5 pieces of melon, 2 pieces of orange, 3 pieces of apple, 8 grapes and 2 strawberries.

The pot lists the ingredients by weight as:

| | |
|------------|-------|
| Melon | (39%) |
| Orange | (19%) |
| Apple | (17%) |
| Grape | (13%) |
| Strawberry | (12%) |

Which one of the contents had the largest weight on average?

- A a piece of apple
- B a grape
- C a piece of melon
- D a piece of orange
- E a strawberry

- 6 In an argument there must be a conclusion, and one or more reasons given to support the conclusion.

From the above definition, which one of the following is most obviously an **argument**?

- A Online banking fraud has become a big problem. Fraud is something that affects us all and we should be aware of what it is.
 - B Online banking has become more popular in recent years. The increased use of online banking has occurred at the same time as increased numbers of PC purchases.
 - C Online banking must be made more secure. Thousands of people lose money due to Internet banking fraud and the media highlight these problems.
 - D Online banking security can never be achieved. Security has become a big issue and one which frightens many online banking customers.
 - E The media has made online banking more popular. The increase in Internet usage is due to the media explaining the benefits of being online.
- 7 Every week people perform in karaoke sessions in pubs and clubs. But the majority of them should consider evidence from research that shows we are often poor judges of our ability to do things. Our judgement seems to be determined by how hard we think a task is. If we think it's hard, we judge that we're no good at it, so we don't do it. On the other hand, if there's something that we think looks easy, we think that we're very good at it, so we do it. Thus people who start to learn how to ski will often think they are better than they are and fall over. So this explains why listening to karaoke singers is usually a painful experience.

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

- A Most people think that it's hard to sing karaoke.
- B People who perform in karaoke sessions are unable to sing well.
- C People who believe that karaoke is hard are likely to sing well.
- D Most people who sing karaoke believe wrongly that they're good at singing.
- E People who do not sing karaoke think that it's hard to do it.

- 8 Around 38000 animals suffer in laboratory experiments every year in the EU (European Union) for no better reason than to test the safety of cosmetics. Not one of these animals need be harmed: more than 8000 safe ingredients already exist. Some EU countries are backing a Europe-wide ban on animal testing of cosmetics, but this will not solve the problem. Cosmetics companies would simply continue the experiments elsewhere and still sell their products into Europe. Only a ban on sales of animal tested products throughout the EU would make the companies stop performing the tests.

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

- A Many more people would stop buying products tested on animals if more publicity was given to the plight of animals.
 - B EU governments are afraid that a ban on sales would be an infringement of international trade agreements.
 - C Consumers will continue to buy their favourite brands of cosmetics so long as they remain on sale.
 - D A ban on sales of animal tested products would have to be accompanied by strong measures to combat smuggling.
 - E A ban on animal testing accompanied by high import duties would have the same effect as a sales ban.
- 9 It is time to stop sending people on space flights. There are only three purposes for being in space - military, commercial and scientific. Neither the military uses of space (such as missile defence shields) nor the commercial uses (such as communications satellites) require manned space flights. Astronauts can carry out scientific research in space, but the results of such research do not justify the expense. And nobody seriously believes now that humans are ever going to live on other planets.

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

- A Manned space flights are not necessary.
- B Manned space flights are too dangerous.
- C Manned space flights should be discontinued.
- D Manned space flights for scientific research are too expensive.
- E Manned space flights will not help us to live on other planets.

- 10 The proposal to build houses in the area planned is very unwise. The site has been very prone to flooding in recent years on account of the silting up of the nearby river. Insurance for such houses is therefore likely to be very high or refused altogether. This will make the houses very unattractive to buyers so the builders would be well-advised to look for a site well away from the river and on higher ground if they wish the project to be a financial success.

What is the **logical function** of the phrase below in the above argument?

‘on account of the silting up of the nearby river’

- A It provides an additional reason to support the main conclusion.
 - B It provides an explanation to support one of the reasons.
 - C It provides an illustration to support one of the reasons.
 - D It provides an illustration to support the main conclusion.
 - E It provides an intermediate conclusion to support the main conclusion.
- 11 Due to the opening of a new road which avoids the town centre, my average journey time to work has been cut from 40 minutes to 30 minutes. This is because, although my journey is 4 kilometres longer than it used to be, my average speed has increased by 20 kilometres per hour.

How far do I currently travel to work?

- A 21 kilometres
- B 22 kilometres
- C 24 kilometres
- D 25 kilometres
- E 28 kilometres

12 The number of new dwellings completed each quarter by a builder for 3 years is shown below.

| Year | 2004 | | | | 2005 | | | | 2006 | | | |
|----------------------|------|----|----|----|------|----|----|----|------|----|----|----|
| Quarter | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Bungalows | 7 | 12 | 14 | 9 | 6 | 10 | 13 | 4 | 5 | 8 | 12 | 3 |
| Terraced houses | 6 | 9 | 11 | 7 | 9 | 12 | 17 | 7 | 10 | 16 | 19 | 9 |
| Semi-detached houses | 15 | 29 | 32 | 20 | 18 | 27 | 34 | 17 | 20 | 33 | 37 | 26 |
| Detached houses | 8 | 14 | 16 | 13 | 9 | 16 | 19 | 12 | 24 | 27 | 27 | 21 |

How many more semi-detached houses were built in the second half of 2006 than were built in the first half of 2004?

- A 1
- B 11
- C 19
- D 26
- E 41

- 13 Oliver is a frequent visitor to More!, his favourite restaurant. Since its introduction, Oliver has ordered from the special offer 'More! For Less' menu every time.

More! For Less

3 Courses

ONLY \$12

| | |
|---|--|
| Starter Choose from | Melon Balls Salmon Mousse Egg Mayonnaise |
|  | |
| Main Course Choose from | Chicken & Mushroom Pie Lasagne Tuna Bake Cheese & Onion Pie |
|  | |
| Dessert Choose from | Apple Pie Chocolate Mousse Ice Cream |
|  | |

He has now ordered from this menu 11 times without ever repeating his combination of choices for the three courses.

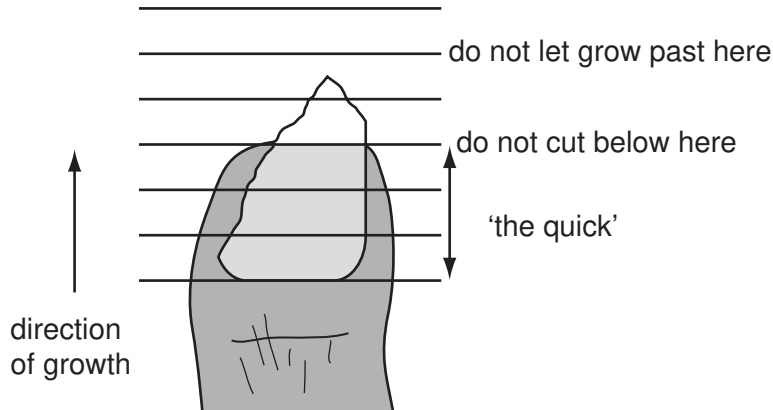
Note that 'mousse' and 'pie' appear more than once on this menu. In the same meal he doesn't want to choose pie twice or mousse twice.

How many more times can Oliver order from the 'More! For Less' menu before he must have a combination he has already eaten?

- A 15
- B 18
- C 21
- D 25
- E 26

- 14 The approved method for cutting toenails is a straight cut at right angles to the direction of growth.

Martha's nail is damaged and torn into 'the quick', but she wants it to be straight across when it grows out. However, if she lets any part get too long it may hurt her or damage her socks. The toenail grows out uniformly.



What is the minimum number of straight cuts needed before she has the desired shape?

- A 1
- B 2
- C 3
- D 4
- E 5

- 15 The price of diesel fuel seems to vary wildly.

I start looking for fuel when the tank gets down to one quarter full, but I only buy it if it is cheaper than when I last filled up. However, if the tank gets down to below an eighth full then I fill up at the first available opportunity.

Here is the list of prices per litre for my last eight purchases (in chronological order):

91¢ 86¢ 90¢ 87¢ 92¢ 93¢ 86¢ 86¢

What is the most that can be deduced about the number of times I went down to below an eighth of a tank after the first fill-up listed?

- A Exactly twice
- B Exactly three times
- C At least three times
- D Exactly four times
- E At least four times

- 16 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 one 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 owners will re-appear.
 - E It is merely a coincidence that dogs show excitement and anticipation when their owners are about to return.
- 17 There are background levels of asbestos and other mineral fibres in the outdoor environment, which people are exposed to every day, without seeming to worry. It is only when asbestos is discovered in homes and public buildings that people get excited about it and insist on its removal. This reaction is inconsistent. The levels of exposure to asbestos inside a building are no greater than the background levels, provided that the asbestos material is in good condition and is left where it is.

Which one of the following, if true, would **weaken** the argument?

- A In the past asbestos was frequently used as a building material.
- B The general public are unaware of their exposure to background levels of asbestos.
- C It is when you start cutting or moving asbestos that it becomes a serious health hazard.
- D There is a serious risk to health if asbestos is found to be in bad condition.
- E The dangers of using asbestos as a building material have been exaggerated.

- 18 One of the most common causes of the failure of small manufacturing firms is cash-flow. It is all very well to win contracts and have a full order-book, but if there is insufficient money invested in the company the delay between taking the order and being paid for the goods can be devastating. Even after delivery, customers can take months to settle their accounts. Sadly, therefore, it is not quality, promptness, hard work or enthusiasm that ensure a company's survival, it is cash. If enough money has been invested in the business, things really cannot go wrong.

Which one of the following exposes the **flaw** in the argument?

- A It may be necessary for a firm to have a full order book, but unless accounts are settled promptly the business can fail.
 - B A firm that produces quality goods and delivers them promptly can still fail if there is a problem with cash-flow.
 - C Adequate cash flow may be crucial to a firm's survival, but investment alone may not prevent things going wrong.
 - D Saying that it is sad that cash-flow is what really matters for the survival of a business does not make it any less true.
 - E Some firms manage very well with limited cash flow, but make up for it with hard work and enthusiasm.
- 19 Advertisers have always assumed that television viewers watch adverts, and that it is most effective to advertise during peak viewing hours in the early evening. It costs them much more to advertise during peak time. Recent research has shown that when the adverts come on, many viewers read, leave the room, switch to other channels, or talk to each other. The larger the group of people watching together, the more likely they are to talk, and therefore the less likely they are to watch the adverts. The research showed that later in the evening, viewers become less likely to engage in these other activities, and are watching in smaller groups.

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

- A Television advertising is the least effective method of persuading people to buy.
- B People are unlikely to buy the products which are advertised on television.
- C The money spent on peak time advertising could be used on more effective ways of promotion.
- D Viewers who watch television in large groups concentrate less on the programmes.
- E Television viewers may talk to each other at the same time as watching the adverts.

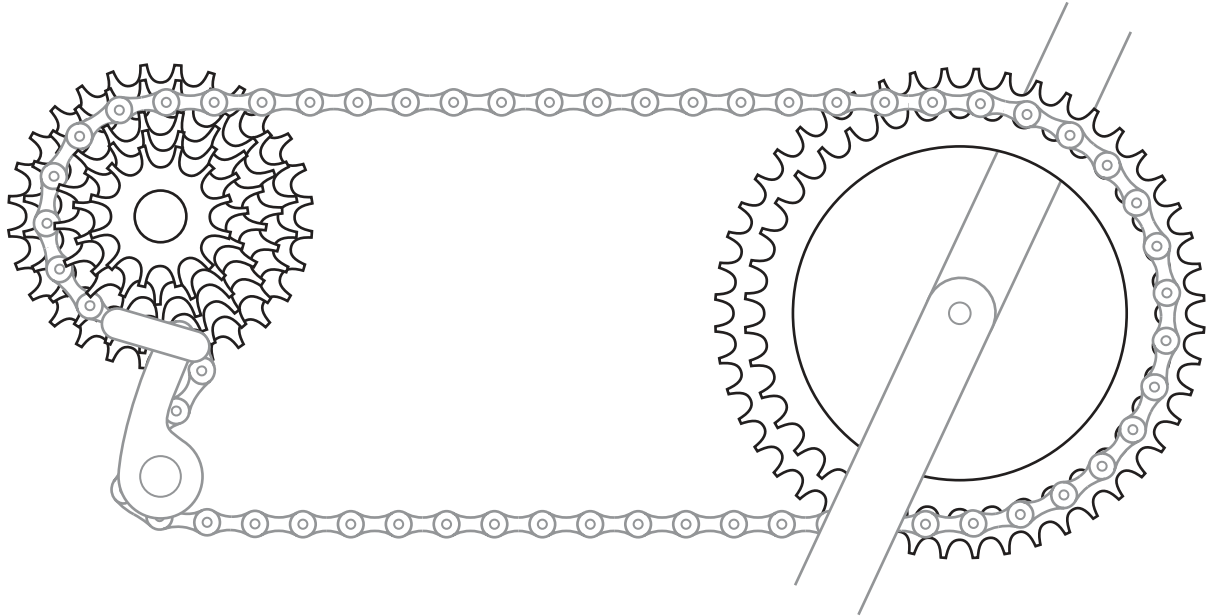
20 Using the natural power of the wind to turn huge turbines to generate electricity is recommended by environmental groups. They argue that the advantages of 'wind farms' are both economic and environmental: they use a resource that's free, and they do not pollute (unlike, for example, coal). Plans have been made to build very large sites in areas of the seas surrounding the UK. Unfortunately, there are significant problems in these sites. First, there is the risk of collision: these sites are all in busy shipping lanes. Second, the turbines might interfere with radio signals used by both ships and coastguards. Though they might seem a good idea, it is clear that it is not sensible to build wind farms.

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

- A The author is inconsistent in the way in which they argue against wind farms.
- B The author assumes that the environmental groups have not considered any of the disadvantages of wind farms.
- C The author fails to consider arguments for wind farms other than those put forward by environmental groups.
- D The author presents the argument for wind farms by environmental groups in a way that exaggerates its weakness.
- E The author's argument against wind farms is one against their proposed siting rather than against them as such.

- 21 A bicycle with 'dérailleur' gears enables the rider to change the ratio between the number of turns of the pedal and of the wheel. One that is sold as '12-speed' has two large cogs on the pedal and six smaller ones on the rear wheel.

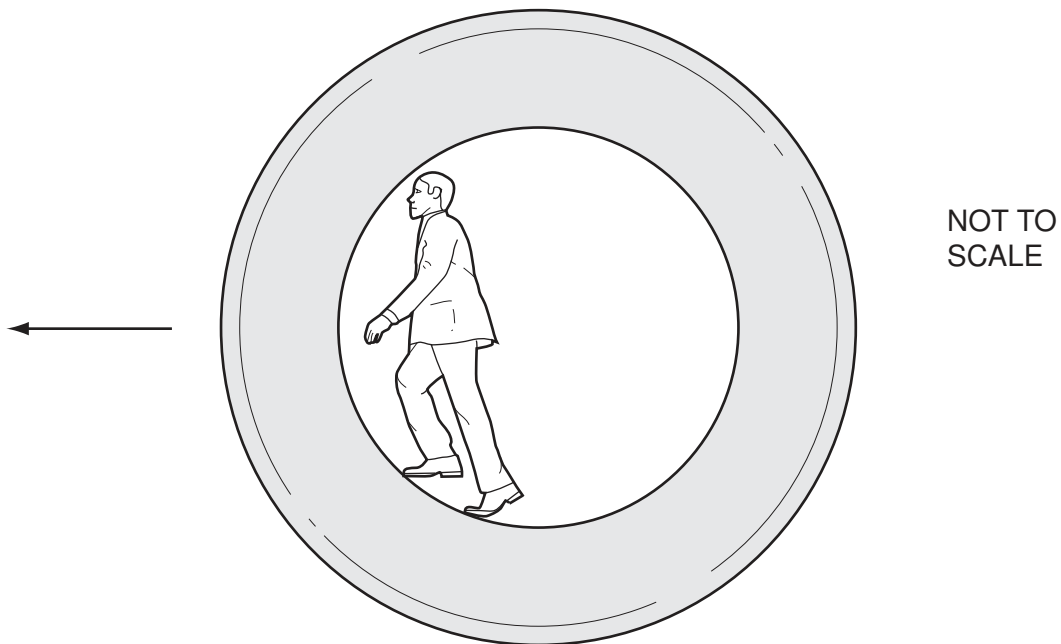
On the cogs attached to the pedal, the numbers of teeth are 40 and 48. On the cogs attached to the rear wheel, the numbers of teeth are 12, 15, 17, 20, 24, and 28.



How many different gear ratios can be used on this bicycle?

- A 8
- B 9
- C 10
- D 11
- E 12

- 22 Dave is trying to move a section of concrete pipe. He finds that he can move it by walking inside the wheel.



The radius of the circle forming the inside of the pipe is 2m, and the radius of the circle forming the outside of the pipe is 5m.

How far must Dave walk inside the pipe, if he wants to move it 25m?

- A 10m
 - B 15m
 - C 22m
 - D 25m
 - E 62.5m
- 23 Which one of the following shapes could **not** be exposed when a cube of clay is cut with one planar slice of a knife (i.e. with a flat knife, slicing in one direction without any curvature)?
- A An equilateral triangle
 - B A right-angled triangle
 - C An oblong (a non-square rectangle)
 - D An irregular pentagon
 - E A regular hexagon

24 Tim and Tom have borrowed a jar of beans and a die from their mother and are playing a simple game. The rules of their game are as follows.

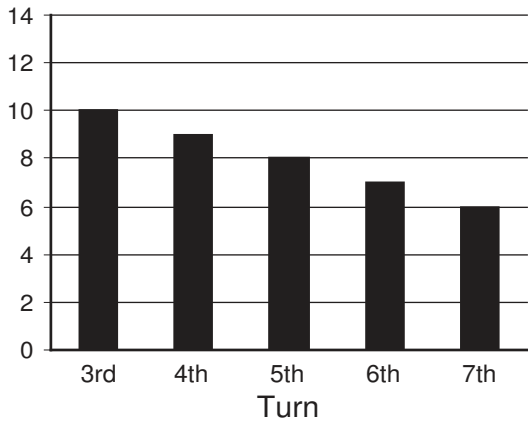
At the start of the game each player takes 10 beans from the jar. Then they take turns and, at his turn, each player throws the die.

- If he throws a 2, he returns two beans to the jar.
- If he throws a 4 or a 6, he returns one bean to the jar.
- If he throws a 3, he takes three beans from the jar.
- If he throws a 1 or a 5, he takes one bean from the jar.

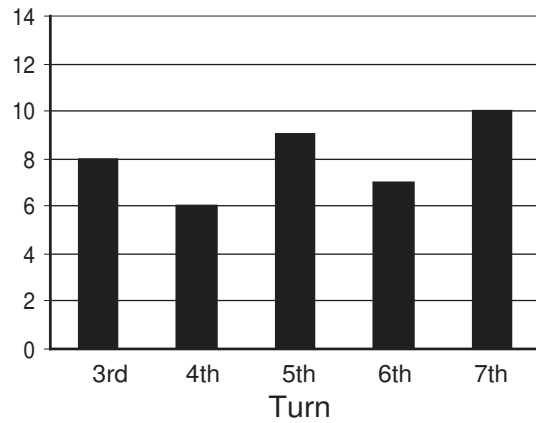
The first player to be left with no beans wins the game.

Which one of the following charts could **not** represent the number of beans held by Tim during part of the game?

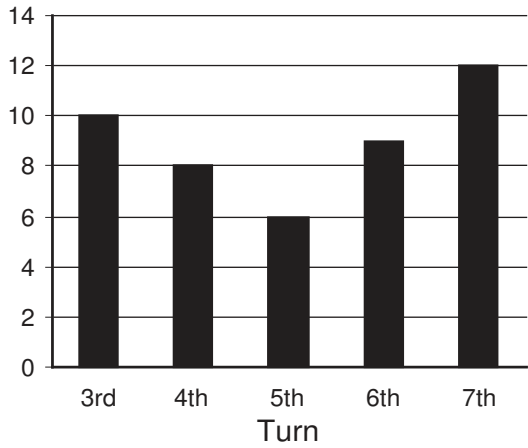
A



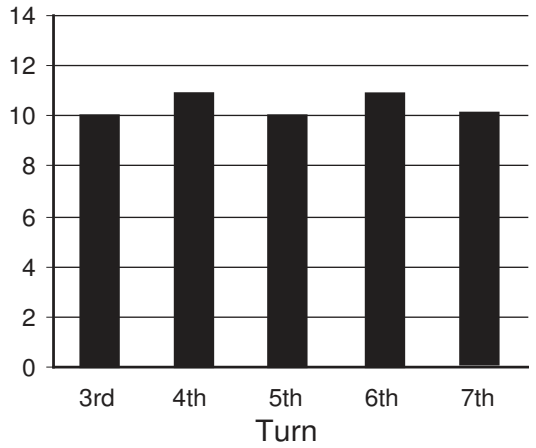
B



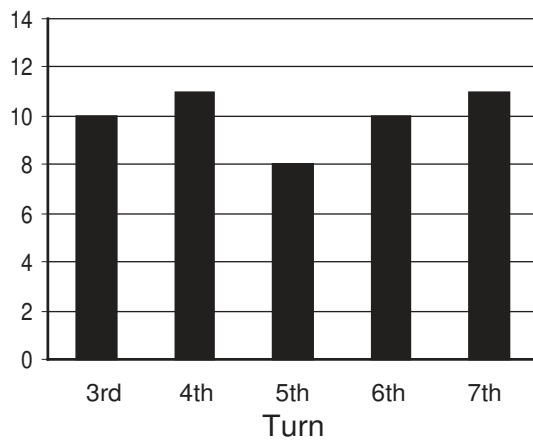
C



D



E



- 25 Lois makes customised tee-shirts. She advertises and receives orders through her own website. She buys blank tee-shirts for \$1 each and \$1 of fabric paint is used to produce the bespoke designs. She pays herself \$6 per hour for her time to create the designs and package the tee-shirts.

In addition she makes a profit of 20% of the selling price.

For how much will she sell a tee-shirt, if the artwork and packaging takes one and a half hours to complete?

- A \$9.60
 - B \$10.00
 - C \$11.00
 - D \$13.20
 - E \$13.75
- 26 Though the jewellery industry is worth \$2755 million, it is very much under-performing. This is because neither manufacturers nor retailers have a good understanding of what the public wants. For example, about half of customers want jewellery that is 'unusual'; however, 45% of retailers think that most customers want 'classic and traditional designs'. There are other trends that need to be noted. Platinum is increasingly preferred to gold for engagement and wedding rings. Younger customers prefer silver to gold jewellery. The age-group 20-24 are the biggest buyers of jewellery, and those 64 and over the smallest. Given that the younger group is growing, jewellers need to concentrate on the young market. In other words: forget 'classic and traditional'; think 'unusual' and think it in silver.

Which one of the following is the best statement of the **main conclusion** of the above argument?

- A The jewellery industry is very much under-performing.
- B The jewellery industry needs to note trends in customer preferences.
- C Neither manufacturers nor retailers understand what jewellery customers want.
- D The jewellery industry should stop concentrating on customers aged 64 and over.
- E The jewellery industry should focus on the preferences of younger customers.

- 27 The influenza virus is carried by birds. People can become infected by the virus when there is contact between human beings and birds. This is why some epidemics of influenza started in Asia, where there are large markets selling live chickens. So if you avoid contact with birds, you will avoid catching influenza.

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

- A It assumes that influenza epidemics occur only in Asia.
 - B It assumes that influenza cannot be treated with antibiotics.
 - C It ignores the fact that chickens do not show symptoms of influenza.
 - D It assumes that contact with birds is the only way of catching influenza.
 - E It ignores the fact that most people do not have contact with live chickens.
- 28 It was our Stone Age ancestors who first began cultivating their food instead of foraging for it in the wild. Almost all the trappings of modern life flow from that fateful decision. Farming allowed people to live together in large, permanent settlements. Its regular surpluses gave some the freedom to spend their lives pursuing goals other than food production. And, ultimately, agriculture let us create the sort of complex, stratified society we live in today. Thus we have our Stone Age ancestors to thank for the benefits and evils of our modern world.

Which one of the following best identifies the **meaning** of the word 'fateful' in the second sentence?

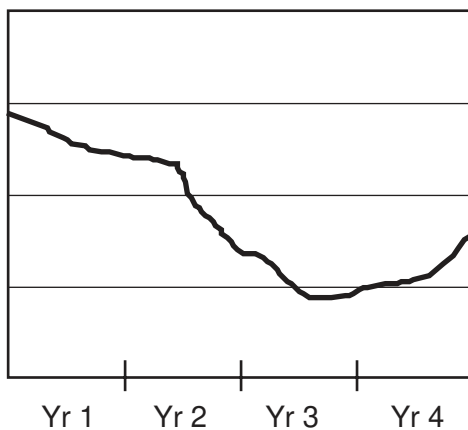
It suggests that...

- A the decision to begin farming was ultimately beneficial.
- B the decision changed the course of history.
- C the switch from foraging to farming was inevitable.
- D humans were pre-ordained to become farmers.
- E cultivating food was essential to human survival.

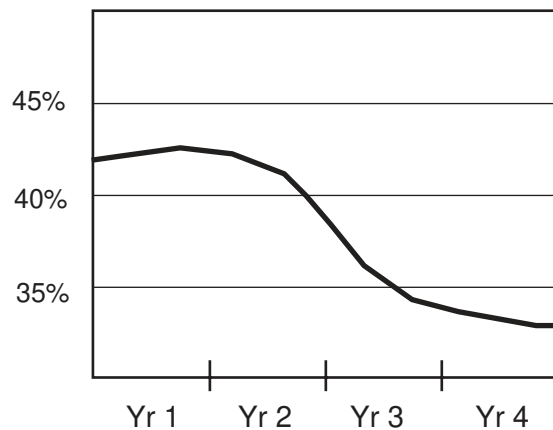
- 29 You may be one of those increasingly worried that noise pollution from traffic in big cities is defying any solution. Widening existing roads has only served to multiply vehicles by more than double. Besides, there is also a growing culture of noise addiction among the city 'hi-tech' crowd. They think quiet and silence are primitive concepts. However because most city folk do not worry much about noise and because motoring is inevitably on the increase, the conclusion cannot be drawn _____ . Rather the opposite is the case:- there are campaigns going on, like the one by the Noise Abatement Society who are looking for new technology that can reduce noise levels. Therefore the problem of noise pollution is remediable.

Which one of the following phrases, when inserted in the blank space, **most logically completes** the reasoning in the passage?

- A that people elsewhere are not worried about it.
 B that such attitudes cannot be challenged.
 C that noise addiction is acceptable.
 D that anti-noise campaigns will not have support.
 E that no one is doing anything about it.
- 30 The graphs below show a comparison of economic performance with a Government's standing in the opinion polls during their first four years of office.



Economic performance



Government popularity
(% share in the polls)

Which one of the following is a **conclusion** that can reliably be drawn from the data?

- A The voting public evidently hold the Government responsible for the poor economic performance.
 B The steep decline in Government popularity has been slowed down by a recent improvement in the economy.
 C The recent upturn in the economy has not been enough to prevent the continuing fall in Government popularity.
 D The Government will not begin to regain its popularity until there has been a sustained improvement in the economy.
 E A Government's popularity in the polls has little or nothing to do with economic factors.

- 31 When Brenda opened the invoice that arrived with the delivery of the office supplies order she was horrified when she saw that the total gross cost was \$380.

Upon checking carefully, however, she realised that on the order form she had put a tick by boxes of 12 pens instead of individual pens, but correctly entered the quantity required as 15.

She consoled herself that they would all get used eventually, and at least they were only \$18 per box whereas the individual pens would have cost \$2 each. Further consolation came when she read that customers ordering more than \$200 worth of goods should deduct 10% from the total gross cost.

When Brenda settles the invoice, how much more will she have spent than she intended?

- A \$202
- B \$213
- C \$216
- D \$232
- E \$243

- 32 The ingredients for bread have to be added in the correct order, and measured accurately. The recipe book gives:

| | White | French | Whole meal | Brown | Granary | Pizza Dough | Unit |
|-------------|----------------|--------|----------------|----------------|----------------|----------------|------|
| Water | $1\frac{1}{8}$ | 1 | 1 | 1 | $1\frac{1}{8}$ | 1 | Cup |
| Milk powder | $1\frac{1}{2}$ | 2 | 2 | 2 | 2 | 0 | Tsp |
| Sugar | 2 | 1 | 2 | $2\frac{1}{2}$ | 2 | 2 | Tsp |
| Salt | $1\frac{1}{4}$ | 1 | $1\frac{1}{2}$ | $1\frac{1}{4}$ | $1\frac{1}{4}$ | 1 | Tsp |
| Oil | $2\frac{1}{2}$ | 1 | 2 | 2 | 2 | 1 | Tbsp |
| Flour | 3 | 3 | 3 | 3 | 3 | $2\frac{3}{4}$ | Cup |
| Yeast | $1\frac{1}{4}$ | 1 | $1\frac{1}{2}$ | $1\frac{1}{4}$ | $1\frac{1}{4}$ | 1 | Tsp |

White sugar is used with white bread and brown sugar with brown bread.

I have made 11 mixes of various types, and so far I have used $16\frac{1}{2}$ Tsp of Milk powder, 13 Tsp of yeast, and $32\frac{1}{2}$ cups of flour.

What is the most that can be said about how much salt I have used?

- A It must be $7\frac{1}{4}$ Tsp.
- B It must be 13 Tsp.
- C It must be $14\frac{1}{2}$ Tsp.
- D There must have been 2 Tsp used making in pizza dough, but from these figures one cannot be sure what else.
- E The exact amount cannot be worked-out without more information.

- 33** Until recently the exchange rate was almost always given as the amount of the other currency equivalent to one British pound (£1). So, for example, the rate of two Canadian dollars to the pound was quoted in that form in both the UK and Canada, and nobody presented it as one Canadian dollar being £0.50.

For political reasons, the Euro (€) is defined the other way around, and this caused confusion when it was first introduced. For example, buying something for £4 with a €10 note in a shop in the UK (where change is given in pounds) could result in getting about £11 change if the shop had entered the wrong rate. The correct change would have been nearer €4.

Working from these figures, what was the approximate exchange rate that the shop was using?

- A** about €1 = £2.75
 - B** about €1 = £2.50
 - C** about €1 = £1.50
 - D** about €1 = £0.91
 - E** about €1 = £0.66
- 34** In a school, precisely one ninth of the students study at least one musical instrument.
- Of these, exactly two thirds play a stringed instrument as their main instrument.
- Of those stringed-instrument players, one quarter play the viola.
- You may assume that any student who plays a musical instrument has one and only one 'main' instrument.
- What is the smallest size that the school could be?
- A** 36
 - B** 54
 - C** 108
 - D** 216
 - E** It is impossible to tell.

- 35 The codenames for Chinese spies involve a colour (red, orange, green, blue, black, white or gold) followed by an animal from the horoscope (dragon, snake, horse, sheep, monkey, rooster, dog, pig, rat, ox, tiger or rabbit), e.g. green dog.

Sometimes documents are published with text black-out so that the reader is not supposed to be able to read one or more words.

Clearly a spy is mentioned in the following extract from a declassified CIA report, which uses a **fixed-width** font:

the reference to an [REDACTED] was found in a notebook obtained when the suspect was detained. Three [REDACTED] people were...

What sort of animal was in the codename of the spy in question?

- A Sheep
 - B Rooster
 - C Pig
 - D Ox
 - E Rabbit
- 36 Burning coal, gas and oil to meet the energy needs of homes and of industry produces carbon dioxide, which causes global warming, thereby seriously damaging the environment. So we should welcome the decision of some industrialised countries to reduce carbon dioxide emissions by investing in renewable sources of energy such as wind power and wave power. But since these countries do little to try to reduce the use of cars, these new 'green' energy policies are inadequate in dealing with the problem of carbon dioxide emissions.

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

- A Non-renewable energy sources such as coal, oil and gas will soon be used up.
- B It would not be possible to reduce the use of cars in industrialised countries.
- C The use of cars in industrialised countries produces significant amounts of carbon dioxide.
- D The use of renewable energy sources can reverse the damage caused by global warming.
- E Non-industrialised countries do not need to reduce their emissions of carbon dioxide.

- 37 The nuclear debate goes on. However, it is a fact that there is no viable alternative to building nuclear power stations. Electricity is a vital source of energy for every economy and demand will only increase. No alternative form of energy production can meet this demand and, at the same time, reduce greenhouse emissions and global warming. Whatever the arguments for alternative technologies, their contribution is likely to be limited and we will always need other sources of supply. Nuclear power is cheap, efficient, easy to manage and therefore is the next reasonable solution to the energy problem.

After hearing the argument, one listener made the following comment:

'People don't care where electricity comes from as long as they have use of it when they want it and at a price they wish to pay.'

If true, does the comment:

- A Give only a little support to the conclusion of the argument?
 - B Neither strengthen nor weaken the argument?
 - C Seriously undermine the argument?
 - D Strongly support the conclusion of the argument?
 - E Slightly weaken the argument?
- 38 In the not-so-distant past doctors were regarded by their patients as all-knowing experts whose decisions went unquestioned. Therefore it made little difference whether or not the patient understood what the doctor was talking about. The patient's opinions and wishes were irrelevant, and most patients accepted this. So doctors made little or no effort to speak to patients in plain language that ordinary people could follow. Today the situation is very different. Patients now have the right to be consulted, and they know it. They are entitled to a clear explanation from their doctors about the different treatments available, so that they can make their own informed decisions. They cannot do this if they do not understand the language.

Which one of the following is a **conclusion** that can be drawn from the above passage?

- A In the past doctors had little or no respect for patients' rights.
- B If doctors used plain language, patients would understand the different treatments available to them.
- C To help patients exercise their rights doctors should use language that ordinary people can understand.
- D If doctors made the effort to give clear explanations, patients would be able to make the right decisions.
- E Using plain language would improve the relationship between doctors and their patients.

- 39 Work is considerably better for you than watching daytime television. According to one Malaysian politician, going back to work will cure stress and depression much faster than staying at home watching TV. An American study has shown that those in employment can expect to live 14 years longer than those not in employment. British research found that, even after taking weight and smoking into account, unemployed men in their forties are twice as likely to die as their working counterparts.

Which one of the following identifies a **flaw** in the above argument?

- A Politicians may not be experts on the causes of stress and depression.
 - B Some men in their forties may be unemployed because of their poor health.
 - C The results of an American study may not be applicable to Malaysia.
 - D Those who are in work may watch as much television as the unemployed.
 - E Watching daytime television may not be the cause of depression.
- 40 People talk in glowing terms about how much the human race has progressed in the last 200 years. However progress has brought nothing but disaster for the human race. Whilst we now have central heating and cars, we also have global warming as a direct product of technological developments such as these. There seems little we can do to prevent global warming which will make large areas of the world uninhabitable. This in turn will create problems as people try to migrate to the remaining inhabitable areas of an already overcrowded planet. It would be better if the human race had not progressed in this way.

Which one of the following definitions of progress is **incompatible** with the author's reasoning?

- A Progress necessarily affects the whole of the human race equally.
- B Progress necessarily involves the passing of time.
- C Progress is necessarily irreversible.
- D Progress is necessarily positive in its outcomes.
- E Progress is necessarily technological in its outcomes.

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