Thinking Skills Assessment Oxford   **4502/11**

Wednesday 31 October 2018   **1 hour 30 minutes**

SECTION 1   **Thinking Skills Assessment**

INSTRUCTIONS TO CANDIDATES

Please read this page carefully, but do not open the question paper until you are told that you may do so.

This paper is Section 1 of 2. Your supervisor will collect this question paper and answer sheet before giving out Section 2.

A separate answer sheet is provided for this section. Please check you have one.
You also require a soft pencil and an eraser.

Please complete the answer sheet with your:

*   TSA candidate number
*   Centre number
*   Date of birth
*   Name

Speed as well as accuracy is important in this section. ***Work quickly, or you may not finish the paper.*** There are no penalties for incorrect responses, only marks for correct answers, so you should attempt **all** 50 questions. All questions are worth one mark.

Answer on the sheet provided. Questions ask you to show your choice between five options. Choose the one option you consider correct and record your choice on the separate answer sheet. If you make a mistake, erase thoroughly and try again.

Any rough work should be done on this question paper. No extra paper is allowed. Dictionaries and calculators may NOT be used.

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Please wait to be told you may begin before turning this page.

This paper consists of 34 printed pages and 2 blank pages.

PV4

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1 Fear of death prompted us to develop technology that helps people live longer. But those same technological advances have condemned us to fear of infirmity and dementia, since so many of us will live to an advanced age. So as to eliminate this new fear, once we have reached old age we should be assisted to die if we choose death over a sad decline. According to current estimates, dementia affects almost 50 per cent of people by the age of 85, and bodily infirmity is guaranteed to develop further the older we get. There is no cure for old age.

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

A Technology has advanced to the point where we can now choose when to die.

B Euthanasia should be readily available to people who have reached a certain age.

C The fear of infirmity and dementia is worse than the fear of death.

D We must develop technology to cure dementia and infirmity.

E We should focus on the health of the young instead of that of the old.

2 There are 24 pupils in a class. They decided to help the local park by planting a total of 24 plants, a mixture of birch trees and roses. Each girl planted three roses, and every three boys planted one birch tree between them.

How many more boys than girls are there in the class?

A 3

B 6

C 8

D 12

E 18

3   The family had to choose between planting maize or soybeans. Maize received a better market price than soybeans last year, but maize requires a much greater fertiliser input to ensure high yields. Because they could not obtain credit to purchase additional fertiliser, they planted soybeans even though the crop is likely to earn less at harvest time.

Which one of the following most closely parallels the reasoning used in the above argument?

   A   In order to go on the trip to New York, the students have to raise enough money. They are failing to raise much money, so it is unlikely they will go on the trip.

   B   She can apply for a loan from a bank or a local credit union. The credit union has higher customer service ratings, so she hopes it will give her the loan.

   C   To be able to buy their first home, they had to save money for a deposit. They bought a house last year, so they must have saved enough money for a deposit.

   D   You only get a promotion if you meet your sales targets. You are sure to get a promotion because you met last quarter's sales targets.

   E   To exchange currency, the tourists could use a bank or, for a poorer exchange rate, use their hotel. They had to use the hotel as there was not enough time to find a bank.

4   The world is now producing more farmed fish than beef. In 2012, fish production reached a record 66 million tonnes; cattle-farm output levelled out at 63 million tonnes. This ought to be good news for the environment. Cattle farming is one of the biggest contributors to global warming, while fish farming – as well as being sustainable – produces little pollution. Fish such as the silver carp can be reared on existing rice paddies, and they feed on grass, plankton and detritus. Species such as salmon, however, are carnivorous and are fed on smaller fish like anchovies caught in the wild. As a result, salmon can only be farmed by further depleting wild fish stocks.

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

   A   Fish farmers who produce carnivorous fish should switch to producing non-carnivorous fish.

   B   Fish farming is likely to become increasingly more widespread in comparison to beef farming.

   C   Fish farming will always be better for the environment than cattle farming.

   D   It would be better for the environment if a greater proportion of farmed fish was non-carnivorous.

   E   Where possible, farmers should opt for more environmentally friendly forms of farming.

5 There is an urgent need to improve the recruitment procedures for teaching positions at universities. There have been numerous cases in which academics have failed to hire outstanding young researchers and talented lecturers. For example, a research fellow from Germany complained that his applications for lecturing jobs were rejected despite his impressive research and publication record. Another scholar from Spain, who had received the Excellence in Teaching Award, also failed to get a job. A number of similar complaints have forced the Department of Education to introduce a policy which requires universities to staff the relevant selection committees with representatives from independent human resources consultancies. This measure will improve recruitment procedures.

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

A Academics are driven by egotistic interests when they recruit faculty members.

B Human resources consultants will be able to spot suitable candidates for teaching positions.

C A good publication record can diminish your chances of being hired.

D The primary goal of universities is to maintain the quality of teaching, rather than excellence in research.

E Graduates of German and Spanish universities have fewer chances of being hired for teaching positions.

6 Jake has a 500 ml bottle of orange squash that he has made according to the instructions on the bottle of concentrate. The instructions dictate that he should add 4 parts water to 1 part concentrate. He accidentally spills his squash, and now there is only 400 ml in the bottle. He then tops up the remainder with concentrate.

What percentage of the squash in his 500 ml bottle is now concentrate?

A 18%

B 20%

C 28%

D 36%

E 40%

7   Baytree Island's Council is concerned to retain a balance of skilled professional workers amongst the population, and monitors migrants in and migrants out on an annual basis. There is currently some concern about the trend, and the Chief Administration Officer was asked to prepare a statistical table for the next Council meeting, as shown below:

	total			professionals			other employed			economically inactive		
in	**P**	**M**	**F**	**P**	**M**	**F**	**P**	**M**	**F**	**P**	**M**	**F**
2017	174	92	82	44	32	12	33	19	14	97	41	56
2016	154	83	71	45	32	13	24	14	10	85	37	48
2015	202	101	101	44	35	9	38	18	20	120	48	72
2014	201	107	94	55	40	15	36	21	15	110	46	64
2013	201	102	99	59	41	18	32	15	17	110	46	64
out	**P**	**M**	**F**	**P**	**M**	**F**	**P**	**M**	**F**	**P**	**M**	**F**
2017	159	94	65	65	49	16	32	22	10	62	23	39
2016	232	132	100	67	50	17	60	38	22	105	44	61
2015	260	136	124	68	49	19	66	37	29	126	50	76
2014	183	89	94	50	32	18	35	19	16	98	38	60
2013	165	80	85	51	32	19	35	16	19	79	32	47

Key: P = persons, M = males, F = females

In which year did the island have the greatest overall loss of professionals?

A   2013

B   2014

C   2015

D   2016

E   2017

8 Most railway stations have digital clocks that display the time in 24-hour format. I recently undertook a train journey from Exeter to Aberdeen. As the train left Exeter, the clock on the platform showed:
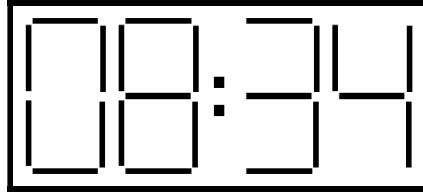
I lost track of time as I read a book and then dozed. I eventually became aware of the train coming to rest and the guard announcing 'Carlisle'.

I opened my eyes, and found that I could only see the top of the platform clock (because of the hoarding in the way) as follows:

Approximately what time was it, to the nearest hour, when the train stopped at Carlisle?

A   1 o'clock

B   2 o'clock

C   3 o'clock

D   4 o'clock

E   5 o'clock

9   Shooting is not just positive for rural economies, but is also necessary for conservation efforts. In various peripheral rural places in Britain, sport shooting related jobs are a mainstay of local economies, often accounting for as much as a third of the labour market. However, since humans disturbed the ecosystem by eradicating the top predators, destroying habitats and introducing non-native species, we are also now responsible for reducing further damage – conserving – by continuous management. This means shooting overpopulated species to minimise the risks of disease and starvation, and dominant foreign species in order to conserve weaker native ones. Additionally, the management of the environment for the purposes of sport shooting can have very positive conservation effects; for example, many endangered birds of prey now thrive on shooting estates.

Which one of the following, if true, most weakens the above argument?

A   Wild flower numbers and bee populations have increased on shooting estates.

B   Many animals that are shot are sold on to butchers and enter the food market.

C   People from all over the world travel to Britain to engage in sport shooting.

D   Many native species such as the red squirrel are at threat from foreign species.

E   Re-introducing top predators such as wolves is a more effective means of conservation.

10   Thousands of parents have recently been prosecuted by local education authorities for taking their children out of school to go on holiday during term time. I took my daughter out of primary school for a two-week holiday every year. The headmistress made no objection and said it would give the other kids time to catch up with her! She was able to learn a foreign language and spend some rewarding time with her French pen-pal. She eventually achieved top grades at school and a degree in mathematics, so it obviously did her no harm! Parents, not governments, know best how to raise children. This law is quite unnecessary.

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

A   It is an appeal to tradition because it suggests that taking children on holiday in term time used to be acceptable.

B   It is based on authority as it uses the headmistress's lack of objection in support.

C   It assumes that because the daughter's good grades were achieved after her foreign holidays, they were the result of the holidays.

D   It is based entirely on the one example of the daughter and generalises from that.

E   It assumes that learning some French adequately compensated for the work the daughter missed.

11 Evidence suggests that children whose parents are married tend to fare better – financially, academically and socially – than children of unmarried parents. The government is therefore proposing a tax break for married couples, whereby married couples are reimbursed by approximately £150 per person per annum. This idea is flawed for several reasons. First, it punishes those whose partners have left them and broken up the marriage. Secondly, it punishes those who, through no fault of their own, have been unable to find a partner. Thirdly, it assumes that people in unhappy relationships will persevere in their unhappy state for something like £12.50 a month. This is patently absurd. Finally, it makes the bogus assumption that maintaining a poor marriage will be better for the children than separation.

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

A A poor relationship could be more damaging for a child than separation.

B Children whose parents are married tend to fare better than children of unmarried parties.

C It is absurd to think that people will persevere in an unhappy relationship for the sum proposed.

D The government's proposal punishes single parents.

E The government's idea of giving married couples tax breaks is flawed.

12 Below is a table showing the value of Lucy's shares. They started at £3.00 in 2011 and in 2016 they were worth £22.68.

year	share value
2011	£3.00
2012	£4.20
2013	£6.30
2014	£9.45
2015	£15.12
2016	£22.68

When did Lucy's shares have the biggest percentage increase?

A 2011–2012

B 2012–2013

**C** 2013–2014

D 2014–2015

E 2015–2016

13 I am redecorating my house and need to buy wallpaper for one of the rooms. I need to buy 54 m of wallpaper in total and want to pay the lowest price. The table below shows the details of the five types of wallpaper I want to choose between.

wallpaper type	roll length	cost per roll	special offers
woodchip	2 m	£25	every fifth roll is free
vymura	3 m	£35	10% discount for orders over £500
anaglypta	3 m	£40	20% discount for orders over £500
embossed	4 m	£50	25% discount on all orders
fabric effect	5 m	£100	buy one, get one free

Which type of wallpaper should I choose?

A woodchip

B vymura

C anaglypta

D embossed

E fabric effect

14 The diagram below shows the method of construction of a book with four folded sheets in each block, and three blocks in total. Page one is the first page of the first block of four sheets. At the centre of each block, you can see the stitching that binds the book together.
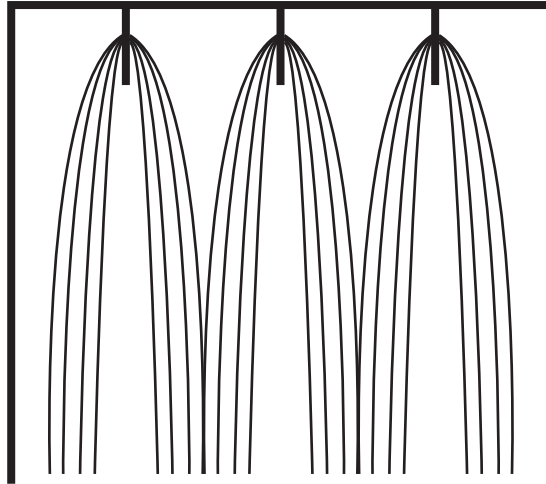
A book is to be made using the same technique but with eight sheets of paper in each of the three blocks.

Which of the following pairs of pages could be in the centre of a block (that is, if opened there, the stitching would be visible)?

A 46 and 47

B 47 and 48

C 48 and 49

D 63 and 64

E 64 and 65

15 The award of a Nobel Prize in economics, but not in psychology, sociology or anthropology, seems to imply that economics is not a social science, but an exact one, like chemistry or physics. Underpinning this idea is the thought that the human world operates like the physical world. Economists themselves perpetuate this impression by dealing in hard quantitative data, as opposed to observation and qualitative analysis. The defining feature of the natural sciences is their consistent success in making predictions, but almost all economists failed to predict the 2008 financial crisis. The striking collapse of LTCM, a hedge fund set up by two economists who were later awarded the Nobel Prize, further underscores the limits of economics to make accurate forecasts.

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

A   The Nobel Prize should not be awarded for economics.

B   The human world is not part of the physical world.

C   Economics is not a science like chemistry or physics.

D   Economists cannot predict the behaviour of markets.

E   Hard quantitative data has no role in economics.

16 Mobile phone use and driving under the influence of alcohol are not the only examples of irresponsible driver behaviour. Tiredness when driving a vehicle is said to be responsible for 300 deaths per year. Astonishingly, almost half of male drivers and 22% of female drivers admit to having fallen asleep at the wheel. If we assume (and it seems reasonable to do so) that even more people are injured than killed as a result of accidents caused by tiredness, it is clear that tiredness while driving is a major road safety issue – and entirely preventable. If we wish to preserve our own lives and those of others we should not drive a car knowing that we have had insufficient sleep or rest to drive safely.

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

A   Women are more careful than men about driving when they are tired.

B   Drivers are able to recognise when they are dangerously tired.

C   Falling asleep when driving is more dangerous than using a mobile phone while driving.

D   People whose jobs involve long distance driving can always avoid driving while tired.

E   Tiredness has been insufficiently highlighted in road safety campaigns.

17 There has been a significant rise in the number of children with rickets. This has resulted from the airless, indoor world we have created for ourselves. Rickets is caused by a deficiency of vitamin D, which is produced in response to sunlight on the skin. Where children used to play outside they mostly stay indoors immersed in virtual realities via various electronic media. Instead of long summer evenings outdoors, we close the curtains to prevent sunlight falling on our screens. The lure of technology is compounded by adult fears of the risks to children if they are left to roam free in the outside world; in any case there are fewer accessible public spaces for open air activity. Curing this will require an awful lot more than vitamin pills.

Which one of the following, if true, most weakens the above argument?

A There has been a large growth in areas designated as national parks and in urban parkland.

B Diet has a much more significant effect on vitamin D intake than sunlight.

C The incidence of rickets is confined to a few hundred cases a year.

D In the 19th century, when the incidence of rickets was much higher, terrible air pollution and smog affected the large population of city dwellers.

E Many people can't afford or be relied on to take vitamin D supplements.

18 Five girls are collecting shells on a beach. They are putting them in buckets that each hold 24 shells. At the end of the collecting time, they are going to ensure that they all have the same number of shells. Four of them are only two short of filling their bucket, but the youngest one is lagging behind with her total. Each of the others give her three shells from their buckets in order to equalise the numbers collected.

How many shells did the youngest girl collect for herself?

A 4

B 7

C 10

D 12

E 19

19 A Youth Centre runs a number of football teams for boys of different ages. Each season, one prize is awarded to the player who has given the best all-round performance. Five players have been nominated as possible recipients of this year's prize. The manager has decided not to reward any player who has missed two consecutive training sessions more than twice, and the manager will also exclude anyone who has failed to score a goal from a penalty kick more than twice. After these criteria have been applied, the prize will go to the player who has scored the highest number of goals.

player	no. of years in a team	no. of times late for training	no. of times missed two consecutive training sessions	no. of penalty kicks taken	no. of penalties scoring a goal	total no. of goals scored
David	2	3	2	16	13	32
John	3	2	1	10	9	26
Colin	2	4	1	13	9	30
Mike	1	2	2	12	10	29
Graham	2	0	3	8	7	36

Which player will receive the best all-round performance prize?

A David

B John

C Colin

D Mike

E Graham

20 The diagram below shows the net of a cube.

A	N		
	D	R	E
			W
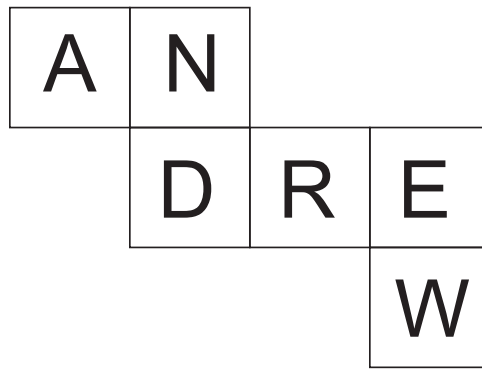
The following diagrams show five suggested views of the cube once it has been assembled.

1   2   3   4   5

Which two of the above are possible views of the cube?

A   1 and 2

B   2 and 3

C   3 and 4

D   1 and 4

E   4 and 5

21 When mobile phones first became relatively inexpensive many parents bought them for their teenage children on the grounds that having access to a phone would keep them safe. High profile cases of abduction at the time underscored the need to improve safety for young people. But today mobile phones invariably have access to the internet, which has made young people vulnerable to stalking and cyberbullying. Since the stated case for buying teenagers mobile phones was to keep them safe, we should now restrict their access to them.

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

A The incidence of cyberbullying and stalking does not undermine the respects in which mobile phones keep teenagers safe.

B If you restrict young people's access to mobile phones they will continue to bully one another on other devices.

C Access to mobile phones has not stopped teenagers from being attacked while out alone at night.

D The majority of teenagers are not affected by the problems of stalking and cyberbullying.

E It ignores the fact that there are other ways of keeping children safe.

22 A new supermarket scheme awards money-off vouchers to customers who spend £40 a week on their grocery shopping. As your weekly shop only costs £15, you are not eligible for vouchers.

Which one of the following most closely parallels the reasoning used in the above argument?

A A discount is given to gym members who introduce new customers. You brought two friends who joined up, so you will get a discount.

B Dessert is given to all those who have completed their main course. You have not eaten your main course so you will not be given dessert.

C Anyone between the ages of 18–30 inclusive gets admission into the nightclub half-price. You are 30 so you will not pay full price.

D A bursary is given to those on incomes below £10 000. You earn £9000 so you will receive a bursary.

E Only experienced wine drinkers can appreciate a good wine. You prefer poor quality wine as you have only recently started drinking wine.

23 The plethora of house-buying and relocation programmes on television these days may well stimulate an interest in lovely properties, but they are a bad thing because at the same time they make viewers who could never afford the houses shown feel both envious and worthless.

Which one of the following illustrates the principle used in the above argument?

A People who watch house-buying programmes do not tend to have nice houses themselves.

B Seeing others enjoy luxuries that they have not got can motivate people to work harder to earn enough to support the same lifestyle.

C The public thinks a celebrity lifestyle must be great, but most celebrities are constantly worried about dropping out of the public eye.

D It is said that renting property is throwing money away, but so much of what one pays monthly on a mortgage goes on interest anyway that many people find it better to rent rather than buy.

E Magazines that show images of men and women who seem perfect are largely to blame for our discontent and for the increase in eating disorders among young people.

24 I have a digital clock that works in 24-hour format (that is, after 23:59, it goes to 00:00). The patterns for each number are made up of segments, as shown below:

What is the maximum number of segments that can be displayed at once, while still showing a valid time?

A 20

B 23

C 24

D 26

E 28

25 The President of Bugaria is elected using the supplementary vote system, which is conducted as follows:

Voters vote for their first-choice and second-choice candidates (though a second choice is optional).

The two candidates with the most first-choice votes go through to a second stage, whilst the others are eliminated. The second-choice votes for these two from the ballot papers of the eliminated candidates are added to their first-choice votes, and the candidate with the greater total is elected President.

The table below shows a summary of the votes cast for the five candidates in last week's Bugarian Presidential Election. For example, 37 862 voters cast their first vote for Sam and their second vote for Val.

second-choice votes	first-choice votes				
	Sam	**Val**	**Kim**	**Pat**	**Jo**
Sam	–	37 304	34 493	38 206	22 871
Val	37 862	–	25 517	27 818	20 143
Kim	23 148	31 690	–	30 247	42 620
Pat	26 493	24 485	29 681	–	31 354
Jo	28 506	27 530	25 308	24 763	–
no second choice	822	1027	1263	952	848

Who has been elected President of Bugaria?

A Sam

B Val

C Kim

D Pat

E Jo

26 A number of identical boxes are piled up, waiting to be loaded into a delivery van. Amy and Ben are about to load them into the van.
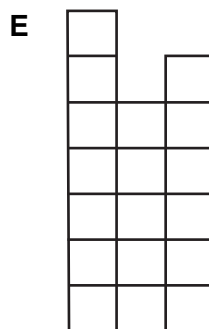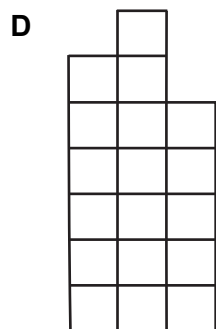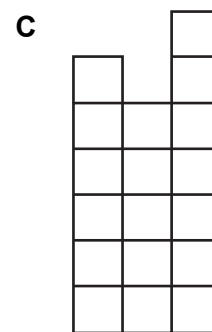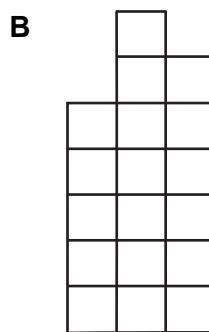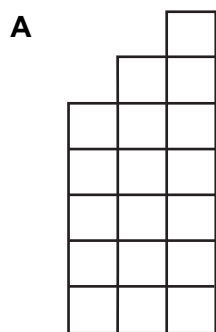
The appearance of the pile of boxes and the positions of Amy and Ben at present are shown below:

[view from above]
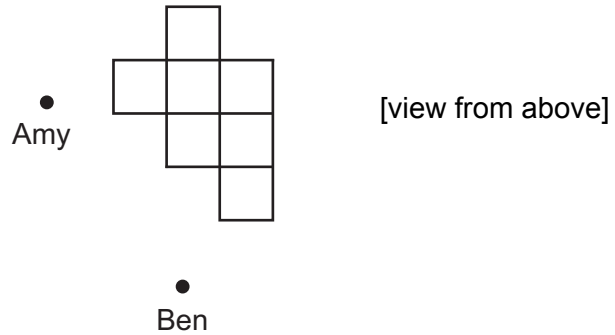
Amy's view of the pile is:
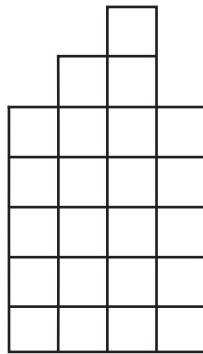
Which one of the following could **not** be Ben's view of the pile?

A

B

C

D

E

27   Long-term unemployment is a big problem for the UK, both for the government and for the individual. The solution is unlikely to be one the government wishes to consider: invest money in improving the skills of job centre staff. Some people argue that providing welfare benefits makes unemployed people less motivated to find work. Other people, mostly outside the government, think that not enough is done to provide the help needed to get people into work. Neither side is right. Unemployed people are all different: some really want to work and would do so if they had help; others are content to live on benefits. We have to steer away from one-size-fits-all solutions and tailor the approach to the individual. But this needs much higher levels of skilled staff than job centres currently have.

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

A   Long-term unemployment is one of the biggest problems facing the UK.

B   Unemployed people vary in their motivation to work.

C   One-size-fits-all solutions tend to be cheaper than tailored approaches.

D   The way to reduce unemployment is to spend on skilled staff in job centres.

E   Welfare benefits provide a disincentive to work.

28   A Prime Minister has a difficult judgement to make when deciding whether to sack one of their ministers or not. Faced, for example, with a minister involved in some kind of scandal, the Prime Minister might feel they should sack them to show they stand up for integrity and high moral standards, or, on the other hand, allow them to remain in post for other reasons such as loyalty to a colleague or a belief that they are, on balance, doing a good job. Sacking ministers shows that the Prime Minister is prepared to live by principles, even if by so doing they lose valued colleagues. The electorate will judge the Prime Minister to have acted with integrity: that is an invaluable perception for anyone wishing to remain in power.

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

A   It is in the Prime Minister's electoral interests to err on the side of sacking.

B   Restoring public trust at a time when the reputation of politicians is low is a priority.

C   Ministers are often sacked for a relatively minor wrongdoing when this is not in the interests of the country.

D   Ministers involved in scandals should always be sacked.

E   Politicians seek to stay in power at all costs.

29 In a survey done by a school librarian during one year, borrowing of books in the library declined by 20%. Amongst books borrowed, rates of late return or loss of books also increased by 10%. On the other hand, student use of computers in the library increased by 25%. This finding was reinforced by frequent complaints from students that there were no computers available when they needed to use them. The librarian concluded that the best response to these findings was to cut the number of books and purchase more computers. 20% of books were sold off or given away, the space given over to additional computer tables, and the library's entire available budget given over to purchasing new computers.

Which one of the following is an underlying assumption of the librarian's reasoning?

A The library should cater for the students' preferences rather than trying to change them.

B A decline in the borrowing of books indicates a decline in reading.

C Students were unjustified in complaining about the lack of computers.

D Students' educational achievement is improved by using computers.

E Library use will necessarily increase if more computers are provided.

30 Recently, packets of Amblers crisps have had 'money-off' coupons inside them. Some coupons are worth 9p, some are worth 14p and some are worth 20p.

George has been collecting these coupons. He has more 14p coupons than 9p coupons, and more 9p coupons than 20p coupons. The total value of all of his coupons is exactly £1.50.

How many coupons has George collected?

A 9

B 10

C 11

D 12

E 13

31 Joanne is studying the period 1900–1950 and has decided to buy a new book to help with her studies. There are five different books available at her local bookshop, the details of which are summarised below:

title	period covered	hardback?	illustrated?	price
History of the 20thCentury	1900–2000	yes	no	£45
The Illustrated Guide to History	1750–2000	no	yes	£50
Beginner's Guide to History	1700–1850	no	no	£40
History for All	1750–1950	yes	yes	£60
All About History	1800–1900	yes	no	£55

On Tuesday, Joanne chose to buy the cheapest book that would satisfy her requirements, and went away to get the exact amount of money needed to buy it. When she returned the following day to buy her chosen book she found that there was a sale and all of the books had been reduced by 20%. She then decided instead to buy the most expensive book that she could with the money she had, and which still satisfied her requirements.

How much money did Joanne have left over once she had bought the book?
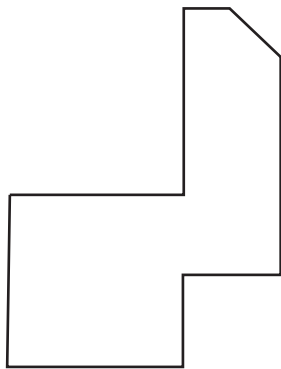
A £0

B £1

C £2

D £3

E £5

32 Connem Ltd. has recently adopted a new company logo.

A large plastic version of the logo has just been delivered to the office, to be attached to the outside of the building. Unfortunately, in transit, the plastic has broken into two pieces, as shown below:
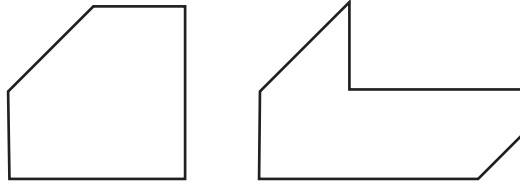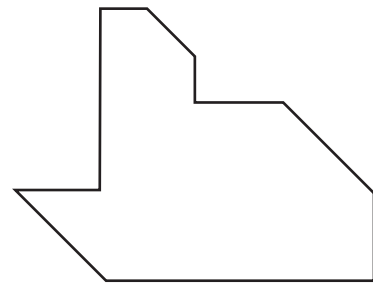

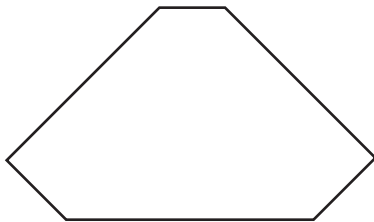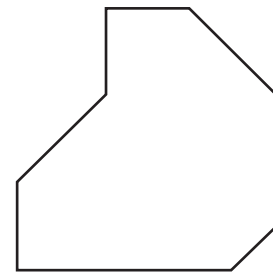Which one of the following could **not** be Connem's new logo?
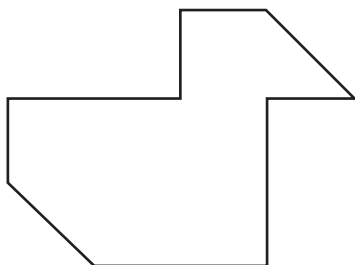
A

B

C

D

E

33 The current advice from the NHS in the UK is to eat five portions of fruit and vegetables a day. However, a recent study suggested that at least seven portions are needed to maximise health. Given that less than a third of adults in the UK, and even fewer children, currently meet the five-a-day target, there is little to be gained from changing the NHS advice to a higher number. A higher target might even be counter-productive, as evidence shows that a change in diet is best sustained when the change is made slowly and incrementally.

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

A Eating seven portions of fruit and vegetables a day is needed to stay healthy.

B At least two thirds of the UK adult population ignore current guidelines.

C Current guidance on fruit and vegetable intake should be maintained.

D Setting high targets for a change in diet is unrealistic.

E Current advice on fruit and vegetable intake has not taken account of recent research.

34 Welfare benefits create a culture of dependency and an unproductive workforce. There are people who stay on welfare benefits for years and never look for employment. Two years ago the government introduced tougher restrictions on the eligibility to receive benefits and the number of recipients has now fallen by 20%. The government should therefore toughen these restrictions even more to further reduce the number of welfare claimants.

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

A It rests on the false assumption that people are happy to stay on benefits and not look for work.

B It gives the impression that the benefits are undeserved.

C It ignores the possibility of other causes for the fall in the number of welfare recipients.

D It equates the recipients of benefits with an unproductive workforce.

E It implies that welfare recipients are in this situation due to their own fault.

35   There seems to be universal agreement on Shakespeare's greatness, yet many of his plays lack any significant development of plot or character. An exceptional skill with language is evident in all his works and his running theme concerning the relationship between appearances and reality has appealed to audiences across times and cultures. But is this enough to confer greatness? More likely this status derives from a small number of his plays, the four great tragedies, which succeed in dramatising reflection on the depths of the human condition. It is this which touches the hearts and minds of his audience.

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

A   Shakespeare's focus on the relationship between appearances and reality has appealed to audiences across times and cultures.

B   There seems to be universal agreement on Shakespeare's greatness.

C   Shakespeare succeeds in touching the hearts and minds of audiences.

D   Shakespeare's greatness derives from a small number of his plays, the great tragedies.

E   Limited plot and character development in many of his plays do not affect Shakespeare's reputation as a great playwright.

36   At the start of the school year, a village shop stocks and sells a range of stationery items. The table below shows details of the wholesale costs and retail prices for a number of the items sold.

items	wholesale cost per pack of 12	retail selling price per 1 item	number sold in one week
crayons	48p	10p	180
felt tips	72p	12p	150
pencils	24p	6p	200
pens	36p	15p	150
rulers	60p	30p	40

Of the five items sold, which two together made the most profit for the shop owner?

A   crayons and pencils

B   crayons and pens

C   felt tips and pencils

D   felt tips and rulers

E   pens and rulers

37 There is an automatic photograph booth in my local shopping centre. It takes exactly 2 minutes from the time that the money is inserted for the photographs to be taken, then the developed photographs appear 4 minutes later.

Money may only be inserted when the green light is on. This light goes out immediately after money is inserted, and comes back on again exactly 3 minutes later.

This morning, I arrived at the booth just as it was being switched on, and I was sixth in the queue. The first person inserted their money immediately, and the rest of us all inserted our money as soon as we were allowed to.

How long after I arrived at the booth did I insert my money?

A   15 minutes

B   18 minutes

C   21 minutes

D   25 minutes

E   30 minutes

38 The diagram below shows part of a map of Ruralia.
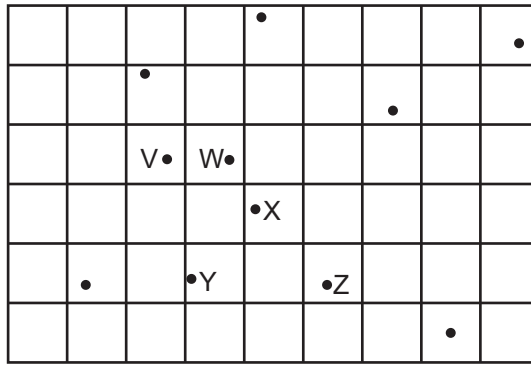
A group of students are on an expedition and must meet their teacher at Longwood, grid reference 787634. Unfortunately, they have been given a version of the map with the numbers missing from the gridlines, and the place names have been omitted too. They have a list of grid references for some places on the map, and are trying to work out which point to head for in order to be sure of meeting their teacher.
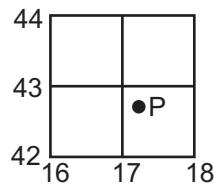
They have a set of instructions showing how the grid references work:

The grid reference of point P is 172427. Go to vertical line to the west of the point, read the number 17. Estimate how many tenths across the square the point appears at, hence 172. Go to horizontal line to the south of point P, read the number 42, estimate how many tenths up the square the point is, hence 427. This gives 172427 as the complete grid reference number.

Here is the list of the grid references / place names the students have been given.

Hilltop	763613	Riverside	781614
Sunnybank	804613	Topfield	777634
High Moor	792626	Longwood	787634
Highscar	773649	Stakefell	793658
West Pasture	815642	Lower Green	837654
Little Tarn	825605		

Using this information to help you, which of the places marked on the map is Longwood?

A V

B W

C X

D Y

E Z

39 Modern aeroplanes are for the most part 'flown' by autoflight computers. These computers can take over when the plane is just 30 metres off the ground, maintain whatever speed and height is tapped into the flight management system, and land the aircraft automatically. But when autoflight computers experience situations they haven't been programmed to handle – sudden structural damage to the aircraft, or extreme weather – they can throw back responsibility to the pilot, who may become confused over the level of control they have. The confusion is made worse by flight deck computers overloading pilots with a blizzard of alerts. This is when crashes are most likely to happen.

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

A Developing autoflight computers further to allow pilotless planes is likely to be safer than the current arrangement.

B Automated systems can be refined to the extent that air crashes will not happen.

C The combination of computer and human control over an aircraft is unsafe in most situations.

D Autoflight computers can be controlled as easily from the ground as from inside the plane.

E Human error in entering data into autoflight computers will always pose a risk.

40 Children spend far too long in schools analysing poems when they should simply be learning to enjoy them. Thankfully, a new approach requires that, instead of focusing on analysing technical aspects of writing such as the writer's use of imagery or alliteration, children will be required simply to learn poems so that they can recite them by heart. This makes good sense. What is the use of learning how to analyse literature if you have no appreciation of its actual value? If they then become interested in it enough to study it at A level or at university, that can be when they learn to analyse in detail the author's craft.

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

A Analysing the writer's craft could enhance the appreciation of the poem.

B Children are not currently required to learn poems off by heart.

C English will continue to be a subject available for study at A level or university.

D For something to be classed as poetry it must include either alliteration or imagery.

E Learning a poem off by heart will enable you to appreciate it more.

41 The financial circumstances of many young people make it difficult for them to forego paid employment for an extended period in order to undertake unpaid internships or work experience placements. In many industries, it is unlikely that a young person will gain entry-level paid employment unless he or she has held one of these temporary unpaid positions. Therefore, the current system of unpaid internships creates an unfair advantage for individuals from more affluent backgrounds.

Which one of the following, if true, most weakens the above argument?

A Unpaid internships and work experience placements often provide young people with an important opportunity for gaining references.

B The highest proportion of unpaid internships and work experience placements are based in a few central locations, such as London.

C Unpaid internships and work experience placements come in various lengths of duration from one to two days up to a number of months.

D Some young people find themselves moving from one unpaid position to another without being able to land a paid job.

E Some schools and other organisations have programmes in place to help match young people with internships or work experience placements.

42 In the main draw of a lottery, six of the balls (which are numbered from 1 to 49) are selected at random, then the numbers chosen are rearranged and displayed in ascending numerical order.

For instance: 3 17 20 29 34 45

In one draw recently, I noticed that the six numbers were made up of a total of ten digits, all different. The lowest number on this occasion was 1 and the highest number was 49, so the range of the six numbers was 48, the greatest possible range for the lottery main draw.

What is the smallest possible range when the six numbers in the main draw of the lottery have a total of ten digits, all different?

A 21

B 23

C 27

D 31

E 32

43 Car parking charges are shown in the table below. Brian wants to park his car for a period of 7.5 hours, whilst he is at work. He buys a ticket in the morning when he arrives at the car park. Due to the close proximity of the car park to his place of work, he is able to return to his car to buy a new ticket as many times as needed.

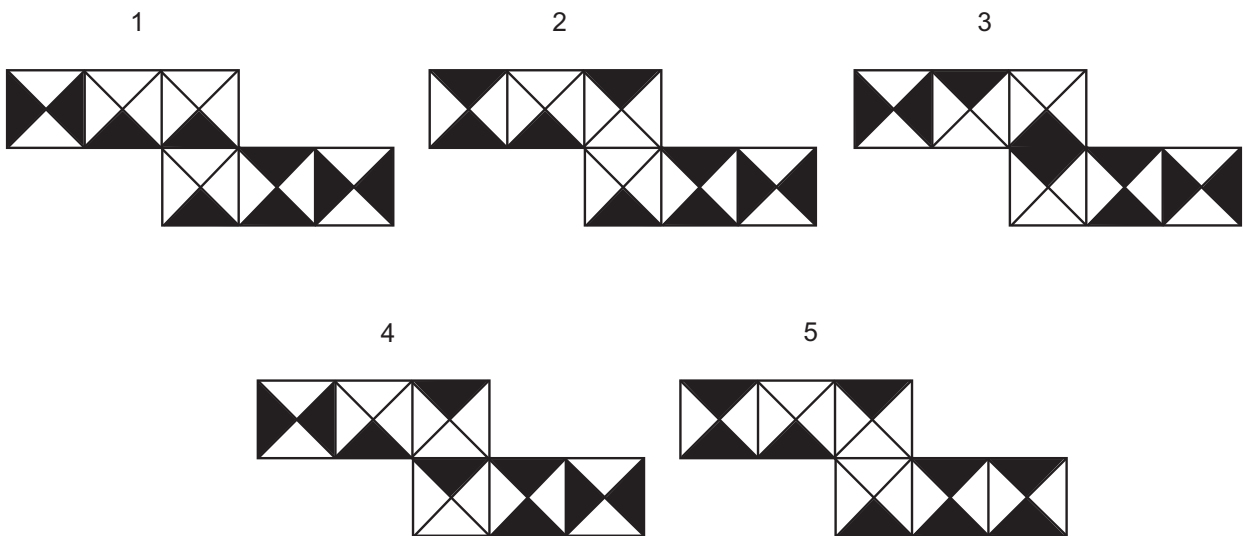| up to	car parking charges
1 hour	£0.80
2 hours	£1.20
3 hours	£1.70
4 hours	£2.40
5 hours	£3.50
6 hours	£4.20
7 hours	£5.20
8 hours	£6.20
over 8 hours	£8.20

What is the most Brian can save by returning to the car to buy new tickets compared to buying one 8-hour ticket?

A   £1.10

B   £1.40

C   £1.60

D   £2.10

E   £3.60

44 Here is a diagram of a cube.
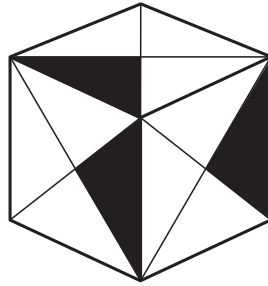
Which one of the following nets **could** be folded to make this cube?

1

2

3

4

5

A 1

B 2

C 3

D 4

E 5

45 Charities address the negative effects of market economies, which apportion goods to people based on their ability to pay as opposed to their needs. The work of charities conceals the true impact of the market system and, worse, leaves the market in place to produce further negative outcomes. Charities therefore effectively perpetuate the problems the market system creates. Since it is immoral to support a practice that perpetuates the very problems it is supposed to resolve, giving to charity cannot be morally justified. After all, if the effects of a system are morally wrong, then it is immoral to sustain that system.

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

A Charity does not address the cause of the problem.

B Charitable giving is necessary because of the market system.

C Charities perpetuate the negative effects of market economies.

D Giving to charity is immoral.

E Charities conceal the negative effects of the operation of the market.

46 You can only grasp the true meaning of Pushkin's poetry if you can read it in its original Russian form. Your doctoral thesis on Pushkin's work shows acute insight so I can tell you have a mastery of the Russian language.

Which one of the following most closely parallels the reasoning used in the above argument?

A Only when there is a clear sky will you be able to practice some astronomy. Tonight is forecast to be cloudless so you will be able to do some stargazing.

B You have to place your dustbin on the street outside before 8 a.m. today for the refuse collectors to deal with it. Since you put yours in the correct place at 7 a.m. your dustbin will be emptied.

C You have to score at the 98th percentile or higher in a standardised IQ test to become a member of Mensa. As you are not a member of Mensa it is clear that your IQ falls outside the top 2%.

D Only towns that have a bypass to divert their traffic are able to create a pedestrian-only high street for local shoppers. I see your town has the benefit of traffic-free shopping, so the bypass must now be open.

E You need to have 45 hours in the air before you can take a pilot's licence test. You have only flown 18 hours so you will not be able to take the test.

47 It has emerged that prisoners have helped to maintain one of Britain's busiest railway lines. Inmates from an open prison have worked night-shifts on the main line from London to Glasgow. This is the same line where a train left the tracks earlier this year, killing one person and injuring several others. It is all very well to have offenders being rehabilitated through work, but what appears to be happening here is that rail contractors are cynically using prisoners as cheap labour. This is unacceptable, not just for safety reasons – important as they are – but because ultimately it is an infringement of workers' rights. If these prisoners are being paid less, or treated differently from regular workers, the practice must stop once and for all.

Which one of the following expresses the general principle that underlies the above argument?

A Labour is labour and should have the same value whoever is performing it.

B Public safety issues must always be given priority over economic advantages.

C Rehabilitation should be for the prisoner's benefit, not the employer's.

D Prisoners who are given work should not take jobs away from other workers.

E Maintenance of public services should be in the hands of skilled professionals only.

48 A car journey begins with a 15 km drive at an average speed of 60 km / hour, then 5 hours on the motorway, including two 15-minute rest stops, travelling at an average driving speed of 80 km / hour, and finally a 20 km drive at an average speed of 40 km / hour from the motorway to the destination.

If the destination is reached at 12:00 midday, at what time did the journey begin?

A 5:18 am

B 5:25 am

C 5:45 am

D 6:15 am

E 6:45 am

49 Fiona is going to put some shelves up in her living room. The shelves must each be 1.80 m long and have a depth of at least 40 cm. There will be five shelves in total. The different prices for wood are shown in the table below.
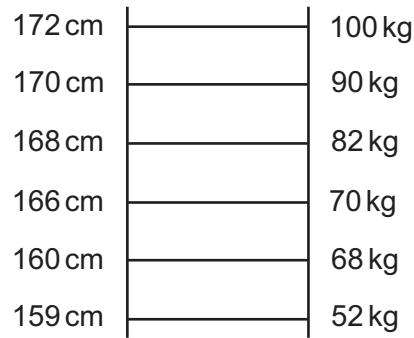
length	depth		
	30 cm	45 cm	60 cm
0.50 m	$0.90	$1.35	$1.50
1.00 m	$1.70	$2.55	$2.80
1.50 m	$2.50	$3.75	$4.20
2.00 m	$3.30	$4.95	$5.50
3.00 m	$4.80	$7.20	$8.00
4.00 m	$6.20	$9.30	$10.00

Fiona can cut pieces of wood to make more than one piece of the correct size, but she wants each of the shelves to be made of one complete piece of wood.

What is the cheapest total cost for which Fiona can make her shelves?

A $21.15

B $23.25

C $23.55

D $24.75

E $25.50

50　Keith likes to draw 'bump charts' to look at relationships. For instance, if 6 individuals were ordered by height, and it happened that the order was the same by weight, the bump chart would look like this:

172 cm	——————	100 kg
170 cm	——————	90 kg
168 cm	——————	82 kg
166 cm	——————	70 kg
160 cm	——————	68 kg
159 cm	——————	52 kg

Or if height was maintained for order on the left hand but lightness rather than heaviness on the right hand, the bump chart would be this:

172 cm		52 kg
170 cm		68 kg
168 cm		70 kg
166 cm		82 kg
160 cm		90 kg
159 cm		100 kg
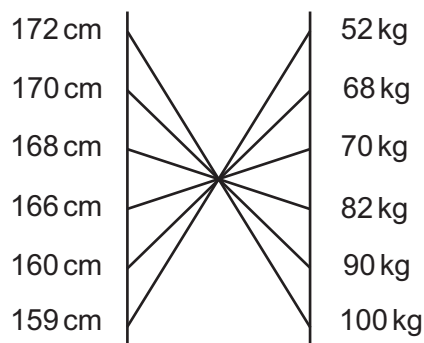
If one axis is reversed in order (as in heaviness goes to lightness), which one of the following bump charts would **not** be symmetrical about a vertical line midway between the axes?

A   B   C

D   E

END OF TEST

35

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