# SỞ GD & ĐT HẢI DƯƠNG TRƯỜNG THPT CHUYÊN NGUYỄN TRÃI

Ngày thi: 19/04/2021

# ĐỀ THI NĂNG KHIẾU LẦN THỨ NHẤT MÔN: ANH LỚP 11

Thời gian làm bài: 180 phút

(Học sinh làm bài vào phiếu trả lời)

## A. LISTENING. (30 points)

<u>I. Listen to a radio programme about two explorers. For questions 1-5, decide if the following sentences are</u>

<u>True (T) or False (F). (10 points)</u>

No.	Questions	True	False
1	Social conventions made it difficult for Ida Laura Pfieffer to travel.		
2	She was accidentally involved in attempt to overthrow a government.		
3	Mary Kingsley began exploring with her parents.		
4	She could easily have died when she fell into a hole.		
5	Her descriptions of African culture are very similar to those in Joseph Conrad's Heart of Darkness.		

II. You will hear a writer talking about a book she has just written on the subject of aspirin. For questions 6-13, complete the sentences. (8 points)

#### THE STORY OF ASPIRIN

Doctors in (6)	treated their patients with a medicine derived f	rom the bark of the willow.
Edward Stone believed that (7)	was similar to quinine.	
The active ingredient of aspirin	was isolated in (8)	
Unfortunately, salicylic acid can	n affect the (9) quite badly.	
The first commercially available	e aspirins were made by Bayer, a	(10)
However there was little (11)	into the way asnirin works for	nearly 70 years

Some scientists think that pe	eople over (12) should take aspirin to prevent certain
diseases.	
It appears that (13)	grown without artificial chemicals also contain the active Ingredients
of aspirin.	
III. You will hear parts of a led	cture about the film director Alfred Hitchcock. Choose the correct letter A, B or
<u>C (12 points)</u>	
14. Why did Hitchcock want	the camera to move in a particular way?
A. It meant that scenes could	l be filmed more quickly.
B. It changed the way the vie	wer followed the action.
C. It was what viewers expec	ted.
15. What does the lecturer sa	ay about the filming of the shower scene in Psychol?
A. Hitchcock was wasting val	uable time.
B. Today's filmgoers are not i	interested in such detail.
C. Spending a week filming o	ne scene would now be too expensive.
16. Which of the following st	atements about Hitchcock's movies is NOT true?
A. The viewer is left to imagin	ne many of the actual murders.
B. The real aim is to expose h	nis characters' inner thoughts.
C. It is easy to guess the endi	ng of a Hitchcock film.
17. According to the lecturer	, viewers of Psycho identify with the murderer because?
A. the character they initially	relate to is dead.
B. he is a likeable character.	
C. the other characters are n	ot very interesting.
18. The lecturer believes that	t before Hitchcock
A. directors always acted in t	heir own films.
B. directors did not play such	an important role in film-making.
C. people knew what the dire	ector looked like.

19. What is the main theme of the lecture?

- A. the movie Psycho
- B. a comparison of various Hitchcock movies
- C. Hitchcock's contribution to cinema

## **B. LEXICO AND GRAMMAR. (50 points)**

## I. Choose the best answer for each question. (10 points)

1.	You must be prep	ared to your	self to greater stress	s if you take on a second	l job.
	A. offer	B. subject	C. field	D. place	
2.	To begin studying o	chemistry at this lev	el, you must already	y have proved your abili	ty in a related
	A. line	B. discipline	C. region	D. rule	
3.	There was consider	rable doubt e	exactly who was resp	oonsible for the acciden	t.
	A. out of	B. as to	C. as for	D. for	
4.	Their plan was out	of this but u	nfortunately the out	come was not so impres	ssive.
	A. moon	B. planet	C. world	D. earth	
5.	All candidates will l	be treated equally,	of their age o	r background.	
	A. notwithstandin	g B. discounting	C. irrelevant	D. irrespective	
6.	If you come to the	theatre late, you ha	ave to wait until the	to get in.	
	A. break	B. interval	C. refreshment	D. half-time	
7.	The fog was so thic	k that we could not	t the oncoming	g car.	
	A. get on	B. make out	C. see through	D. watch out	
8.	I read the contract	again and again	avoiding making	g spelling mistakes.	
	A. with a view to	B. in view of	C. by means of	D. in terms of	
9.	The two naughty b	oys were afte	r school for misbeha	vior.	
	A. detained	B. withheld	C. postponed	D. stayed	
10	). My teacher wante	ed to see me	to discuss some clas	ss problems.	
	A. by person	B. as a person	C. in person	D. with person	
<u>II.</u>	Supply the correct j	form of the words q	iven in brackets to c	omplete each of the sen	tences below. Write
yo	our answer in the sp	ace provided. (10 p	<u>oints)</u>		
1.	They lost the battle	e, despite (number)		the enemy by two t	o one.
2.	Before enrolling on	a course, check th	at it has been (valid)		by a reliable
or	ganizer.				

3.	We could hardly talk on deck because of the (deaf)	roar of the sea.
4.	How are you getting on with your (correspond)	course in French?
5.	Our efforts to make him change his mind proved (fruit) _	; he wouldn't listen.
6.	There is not much (clear) for tall	vehicles passing under this bridge.
7.	She is very efficient, and (fail) pol	ite to the customers.
8.	The slight (form) in his chin was c	orrected by surgery.
9.	I had to stand in terrible (comfort)	on the crowded bus for half an hour.
10	). This is an extremely difficult job for young and (experier	nce) people.
<u>III.</u>	Fill each gap in the following sentences with a suitable p	reposition or adverb particle. (10 points)
1.	The boss cannot account all the money he	e has spent?
2.	The explanation the teacher gave is quite	us.
3.	They bought the house last year and have sold it	a profit.
4.	Many stars are invisible the naked eyes, s	o they need a telescope.
5.	Normally, virus diseases will clear up the	ir own accord.
6.	The senator is believed to be implicated	the scandal.
7.	Bill is practicing very hard. He is intent w	inning a gold medal.
8.	Strangely enough, the baby doesn't take	their parents at all.
9.	I will soon send you a letter confirmation	of our plan.
10	). The police are looking the past record o	of the suspect.
<u>IV.</u>	. Identify one of the four underlined parts in each sentence	e which is incorrect and get it right. Write your
<u>ch</u>	oice A, B, C, or D and the corrections in the space provided	d. (20 points)
1.	So far Margaret (A)has been writing 5 novels (B)on the p	problems (C) <u>teenagers</u> have to (D) <u>cope with</u> in
	modern times.	
2.		n (C) <u>damage</u> a person's (D) <u>hear</u> temporarily o
	permanently.	
3.	Tom's grandfather left (A)him 50,000 (B)dollars, (C)this	was (D) <u>too big a sum</u> for him.

5. (A) <u>Every</u> chemical (B) <u>has</u> a standard symbol (C) <u>which is</u> found in the (D) <u>period</u> table of elements.

4. You (A)<u>mustn't have</u> seen Peter, (B)<u>for</u> he went (C)<u>abroad</u> two years ago and now (D)<u>lives</u> in Australia.

- 6. Most educators today (A)<u>consider</u> computer literacy (B)<u>being</u> a (C)<u>necessary</u> addition to the (D)<u>basic</u> scholastic requirements.
- 7. A ray of light passing (A)through (B)the center of a thin lens (C)keeps its (D)origin direction.
- 8. Experiments (A) have shown that (B) the bees can (C) somehow sense the Earth's (D) magnetic field.
- 9. (A)Millions of dollars' (B)worth of plants are (C)raised (D)annual in greenhouses.
- 10. There (A) is not way by which the peoples of (B) the world can be (C) divided into neat and precise (D) racial categories.

## C. READING. (60 points)

I. Read the text below and think of the word which best fits each space. Use only ONE word in each space.

Write your answers in the corresponding numbered boxes. (20 points)

#### **Child Custody**

A century ago, fathers who fought in court for custody of their children usually (1), simply
because they were the breadwinners. Early in this century, women began persuading judges that (2)
were better suited to child-rearing, and courts (3) awarding them custody and
child support payments. As one judge (4) in 1921, "for a youngster of tender years (5)
can be an adequate substitute (6) mother love."
Most judges today still hold to this standard. Each (7) courts determine the fate of some
100,000 children of divorce and, in nine (8) of ten cases, the mother gets (9)
Another 900,000 children a year are similarly dispersed out of court. (10), there is now a
growing belief that mothers aren't necessarily the (11) parents after a divorce. Neither (12)
fathers.
A new arrangement has (13) evolving, mostly in private divorce settlements, known (14)
joint custody. The parents agree to (15) equally in important decisions
regarding their (16), and to share fairly, though not always equally, in their physical care. A
(17) state legislatures have authorized joint custody if judges (18) it in a few
best interest. In other states, like New York, judges have (19) joint custody awards without
requiring special (20)

II. Read the following passage and circle the best answer for each blank. Write your answer (A, B, C or D) in the box provided. (10 points)

#### **MOUNTAIN RESCUE**

Las	st year over 200 cli	mbers were rescue	d from the mountain	ns of Scotland (0) by I	ocal rescue
teams, who go out in all weathers to do whatever they can to help when disaster (1) These					
pe	ople are volunteers	s, giving their time	and energy freely a	nd, on occasion, putting themselves	in danger.
Th	ey will risk life and	l (2) i	in an emergency w	hen they are called on to rescue fo	oolhardy or
un	lucky climbers.				
A١	whole (3)	of things can	go wrong up in the	e mountains. A storm can (4)	up
wit	thout warning, red	ucing visibility to vi	irtually zero. Then o	only the most experienced mounta	ineer could
fin	d their way back d	own to safety. And	it is easy to come	to (5), breaking a leg	- or worse.
Ma	any climbers owe a	huge (6)	of gratitude to t	he rescue teams!	
Wl	nile rescue teams	work for no pay, t	here are considera	ble costs (7) in mai	ntaining an
eff	icient service. Equi	pment such as rope	es and stretchers is o	of (8) importance, as a	are vehicles
an	d radio communica	tions devices. Thou	gh some of the cost	ts are (9) by the gover	nment, the
res	scue teams couldn	't operate without	donations from th	e public. Fortunately, fundraising	for a good
caı	use like this is not o	difficult; anyone wh	o has ever been up	in the mountains will gladly (10)	
a c	ontribution.				
0.	A. apart	B. even	C. only	D. alone	
1.	A. hits	B. rises	C. strikes	D. arrives	
2.	A. limb	B. blood	C. bone	D. flesh	
3.	A. scope	B. extent	C. range	D. scale	
4.	A. brew	B. arise	C. whip	D. lash	
5.	A. agony	B. trouble	C. problem	D. grief	
6.	A. recognition	B. liability	C. debt	D. obligation	
7.	A. implied	B. involved	C. featured	D. connected	
8.	A. lively	B. vibrant	C. essential	D. vital	
9.	A. borne	B. held	C. carried	D. fulfilled	
10.	A. make	B. take	C. do	D. hand	

### III. Read the text and choose A, B, C or D as the correct answer for questions 1-10. (10 points)

### **DEER POPULATIONS OF THE PUGET SOUND**

Two species of deer have been prevalent in the Puget Sound area of Washington state in the Pacific Northwest of the United States. The black-tailed deer, a lowland, west-side cousin of the mule deer of eastern Washington, is now the most common. The other species, the Columbian white-tailed deer, in

earlier times was common in the open prairie country; it is now restricted to the low, marshy islands and flood plains along the lower Columbia River.

Nearly any kind of plant of the forest understory can be part of a deer's diet. Where the forest **inhibits** the growth of grass and other meadow plants, the black-tailed deer browses on huckleberry, salal, dogwood, and almost any other shrub or herb. But this is fair-weather feeding. What keeps the black-tailed deer alive in the harsher seasons of plant decay and dormancy? One compensation for not hibernating is the built-in urge to migrate. Deer may move from high-elevation browse areas in summer down to the lowland areas in late fall. Even with snow on the ground, the high bushy understory is exposed; also snow and wind bring down leafy branches of cedar, hemlock, red alder, and other arboreal fodder.

The numbers of deer have fluctuated markedly since the entry of Europeans into Puget Sound country. The early explorers and settlers told of abundant deer in the early 1800s and yet almost in the same breath bemoaned the lack of this succulent game animal. Famous explorers of the North American frontier, Lewis and Clark arrived at the mouth of the Columbia River on November 14, 1805, in nearly starved circumstances. They had experienced great difficulty finding game west of the Rockies and not until the second of December did they kill their first elk. To keep 40 people alive that winter, they consumed approximately 150 elk and 20 deer. And when game moved out of the lowlands in early spring, the expedition decided to return east rather than face possible starvation. Later on in the early years of the nineteenth century, when Fort Vancouver became the headquarters for the Hudson's Bay Company, deer populations continued to fluctuate. David Douglas, Scottish botanical explorer of the 1830s found a disturbing change in the animal life around the fort during the period between his first visit in 1825 and his final contact with the fort in 1832. A recent Douglas biographer states: "The deer which once picturesquely dotted the meadows around the fort were gone (in 1832), hunted to extermination in order to protect the crops."

Reduction in numbers of game should have boded ill for their survival in later times. A worsening of the plight of deer was to be expected as settlers encroached on the land, logging, burning, and clearing, eventually replacing a wilderness landscape with roads, cities, towns, and factories. No doubt the numbers of deer declined still further. Recall **the fate of the Columbian white-tailed deer**, now in a protected status. But for the black-tailed deer, human pressure has had just the opposite effect. Wildlife zoologist Helmut Buechner (1953), in reviewing the nature of biotic changes in Washington through recorded time, says that "since the early 1940s, the state has had more deer than at any other time in its history, the winter population fluctuating around approximately 320,000 deer (mule and black-tailed deer), which will yield about 65,000 of either sex and any age annually for an **indefinite period**."

The causes of this population rebound are consequences of other human actions. First, the major predators of deer-wolves, cougar, and lynx-have been greatly reduced in numbers. Second, conservation has been insured by limiting times for and types of hunting. But the most profound reason for the restoration of high population numbers has been the fate of the forests. Great tracts of lowland country deforested by logging, fire, or both have become ideal feeding grounds for deer. In addition to finding an increase of suitable browse, like huckleberry and vine maple, Arthur Einarsen, longtime game biologist in the Pacific Northwest, found quality of browse in the open areas to be substantially more nutritive. The protein content of shade-grown vegetation, for example, was much lower than that for plants grown in clearings.

	,	Ü	
1. According to para	graph 1, which of the	following is true of the	e white-tailed deer of Puget Sound?
A. It is native to low	lands and marshes.		
B. It Is more closely	related to the mule de	er of eastern Washing	gton than to other types of deer.
C. It has replaced the	e black-tailed deer in t	he open prairie.	
D. It no longer lives i	in a particular type of I	habitat that it once oc	ccupied.
2. It can be inferred	from the discussion in	paragraph 2 that win	ter conditions
A. cause some deer	to hibernate		
B. make food unava	ilable in the highlands	for deer	
C. make it easier for	deer to locate unders	tory plants	
D. prevent deer from	n migrating during the	winter	
3. The word " <b>inhibit</b>	s" in the passage is clo	osest in meaning to	·
A. consists of	B. combines	C. restricts	D. establishes
4. The phrase "in the	e same breath" in the	passage is closest in n	neaning to
A. impatiently	B. humorously	C. continuously	D. immediately
5. The author tells the following points	•	rs Lewis and Clark in រុ	paragraph 3 in order to illustrate which of
A. The number of de	eer within the Puget Sc	ound region has varied	d over time
B. Most of the explo	rers who came to the	Puget Sound area we	re primarily interested in hunting game.

C. There was more games for hunting in the East of the United States than in the West.

- D. Individual explorers were not as successful at locating game as were the trading companies.
- 6. Why does the author ask readers to recall "**the fate of the Columbian white-tailed deer**" in the discussion of changes in the wilderness landscape?
- A. To provide support for the idea that habitat destruction would lead to population decline
- B. To compare how two species of deer caused biotic changes in the wilderness environment
- C. To provide an example of a species of deer that has successfully adapted to human settlement
- D. To argue that some deer species must be given a protected status
- 7. The phrase " indefinite period" in the passage is closest in meaning to a period \_\_\_\_\_\_
- A. whose end has not been determined
- B. that does not begin when expected
- C. that lasts only briefly
- D. whose importance remains unknown
- 8. Which of the following statements about deer populations is supported by the information in paragraph 4?
- A. Deer populations reached their highest point during the 1940s and then began to decline.
- B. The activities of settlers contributed in unexpected ways to the growth of some deer populations in later times.
- C. The clearing of wilderness land for construction caused biotic changes from which the black-tailed deer population has never recovered.
- D. Since the 1940s the winter populations of deer have fluctuated more than the summer populations have.
- 9. Which of the sentences below best expresses the essential information in the highlighted sentence in paragraph 5?
- A. Arthur Einarsen's longtime familiarity with the Pacific Northwest helped him discover areas where deer had an increase in suitable browse.
- B. Arthur Einarsen found that deforested feeding grounds provided deer with more and better food.
- C. Biologists like Einarsen believe it is important to find additional open areas with suitable browse for deer to inhabit.

- D. According to Einarsen, huckleberry and vine maple are examples of vegetation that may someday improve the nutrition of deer in the open areas of the Pacific Northwest.
- 10. Which of the following is NOT mentioned in paragraph 5 as a factor that has increased deer populations?
- A. A reduction in the number of predators
- B. Restrictions on hunting
- C. The effects of logging and fire
- D. Laws that protect feeding grounds of deer
- IV. Read the text and follow the instructions. (13 points)

## The cloud messenger

At six o'clock one evening in December 1802, in a dank and cavernous laboratory in London, an unknown young amateur meteorologist gave the lecture that was to make him famous

- **A.** Luke Howard had been speaking for nearly an hour, during which time his audience had found itself in a state of gradually mounting excitement. By the time that he reached the concluding words of his address, the Plough Court laboratory was in an uproar. Everyone in the audience had recognized the importance of what they had just heard, and all were in a mood to have it confirmed aloud by their friends and neighbours in the room. Over the course of the past hour, they had been introduced not only to new explanations of the formation and lifespan of clouds, but also to a poetic new terminology: 'Cirrus', 'Stratus', 'Cumulus', 'Nimbus', and the other names, too, the names of intermediate compounds and modified forms, whose differences were based on altitude, air temperature and the shaping powers of upward radiation. There was much that needed to be taken on board.
- **B.** Clouds, as everyone in the room would already have known, were staging posts in the rise and fall of water as it made its way on endless compensating journeys between the earth and the fruitful sky. Yet the nature of the means of their exact construction remained a mystery to most observers who, on the whole, were still in thrall to the vesicular or 'bubble' theory that had dominated meteorological thinking for the better part of a century. The earlier speculations, in all their strangeness, had mostly been forgotten or were treated as historical curiosities to be glanced at, derided and then abandoned. Howard, however, was adamant that clouds were formed from actual solid drops of water and ice, condensed from their vaporous forms by the fall in temperature which they encountered as they ascended through the rapidly cooling lower atmosphere. Balloon pioneers during the 1780s had continued just how cold it could get up in the

realm of the clouds: the temperature fell some 6.5°C for every thousand metres they ascended. By the rime the middle of a major cumulus cloud had been reached, the temperature would have dropped to below freezing, while the oxygen concentration of the air would be starting to thin quite dangerously. That was what the balloonists meant by 'dizzy heights'.

- **C.** Howard was not, of course, the first to insist that clouds were best understood as entities with physical properties of their own, obeying the same essential laws which governed the rest of the natural world (with one or two interesting anomalies: water, after all, is a very strange material). It had long been accepted by many of the more scientifically minded that clouds, despite their distance and their seeming intangibility, should be studied and apprehended like any other objects in creation.
- **D.** There was more, however, and better. Luke Howard also claimed that there was a fixed and constant number of basic cloud types, and this number was not (as the audience might have anticipated) in the hundreds or the thousands, like the teeming clouds themselves, with each as individual as a thumbprint. Had this been the case, it would render them both unclassifiable and unaccountable; just so many stains upon the sky. Howard's claim, on the contrary, was that there were just three basic families of cloud, into which every one of the thousands of ambiguous forms could be categorized with certainty. The clouds obeyed a system and, once recognized in outline, their basic forms would be 'as distinguishable from each other as a tree from a hill, or the latter from a lake', for each displayed the simplest possible visual characteristics.
- **E.** The names which Howard devised for them were designed to convey a descriptive sense of each cloud type's outward characteristics (a practice derived from the usual procedures of natural history classification), and were taken from the Latin, for ease of adoption by the learned of different nations': Cirrus (from the Latin for fibre or hair), Cumulus (from the Latin for heap or pile) and Stratus (from the Latin for layer or sheet). Clouds were thus divided into tendrils, heaps and layers: the three formations at the heart of their design. Howard then went on to name four other cloud types, all of which were either modifications or aggregates of the three major families of formation. Clouds continually unite, pass into one another and disperse, but always in recognizable stages. The rain cloud Nimbus, for example (from the Latin for cloud), was, according to Howard, a rainy combination of all three types, although Nimbus was reclassified as nimbostratus by meteorologists in 1932, by which time the science of rain had developed beyond all recognition.
- **F.** The modification of clouds was a major new idea, and what struck the audience most vividly about it was its elegant and powerful fittingness. All of what they had just heard seemed so clear and so self-evident. Some must have wondered how it was that no one not even in antiquity had named or graded

the clouds before, or if they had, why their efforts had left no trace in the language. How could it he that the task had been waiting for Howard, who had succeeded in wringing a kind of exactitude from out of the vaporous clouds? Their forms, though shapeless and unresolved, had at last, it seemed, been securely grasped. Howard had given a set of names to a radical fluidity and impermanence that seemed every bit as magical, to that first audience, as the Eskimo's fabled vocabulary of snow.

Question 1-6. The reading passage has seven paragraphs labelled A-G. Choose the correct heading for each from the list of headings below. Write the correct number i-x in boxes 1-6 on your answer sheet.

List of headings				
i	An easily understood system			
ii	Doubts dismissed			
iii	Not a totally unconventional view			
iv	Theories compared			
V	A momentous occasion			
vi	A controversial use of terminology			
vii	Initial confusion			
viii	Previous beliefs replaced			
ix	More straightforward than expected			
х	An obvious thing to do			

1. Paragraph A
2. Paragraph B
3. Paragraph C
4. Paragraph D
5. Paragraph E
6. Paragraph F

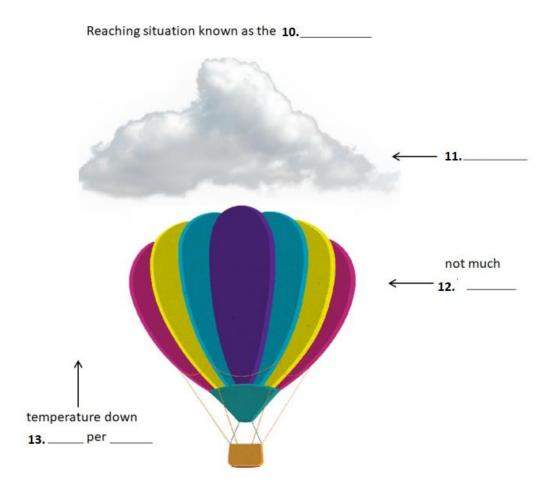
Questions 7-9. Which paragraph contains the following information?

NB You may use any letter more than once.

- 11. an example of a modification made to work done by Howard
- 12. a comparison between Howard's work and another classification system

13. a reference to the fact that Howard presented a very large amount of information				

Questions 10-13. Label the diagram below. Choose NO MORE THAN THREE WORDS AND/OR A NUMBER from the passage for each answer.



V. You are going to read an extract from an article. Seven paragraphs have been removed from the extract.

Choose from the paragraphs A-H the one which fits each gap (1-7). There is one extra paragraph which you do not need to use. (7 points)

#### THE ENDURING MYTH OF MUSIC AND MATHS

As a mathematician with strong musical interests who grew up in a family of musicians, I have been asked about the connection between music and maths many times. And I have bad news: although there are some obvious similarities between mathematical and musical activity, there is (as yet) no compelling evidence for the kind of mysterious, almost magical connection that many people seem to believe in. I'm partly referring hereto the 'Mozart Effect' the hypothesis that children who have heard music by Mozart are supposedly more intelligent, including at mathematics, than children from a control group.

1

Of course, this conclusion does not show that there is no interesting connection between mathematics and music. It was always a little implausible that lazily listening to a concerto would earn you extra marks on

that maths test you are taking tomorrow, but what about learning to read music or spending hours practising the piano? That takes genuine effort.

2

Demonstrating a connection of this kind is not as easy as one might think. To begin with, there are plenty of innumerate musicians and tone-deaf mathematicians, so the best one could hope to demonstrate would be a significant positive correlation between aptitudes at the two disciplines. And then one would face all the usual challenges of establishing a statistical connection.

3

And yet, the belief that the two are interestingly related won't go away without a fight. I cannot help observing that among the mathematicians I know, there do seem to be a surprising number who are very good indeed at the piano.

4

Indeed, yes, we can. For a start, both mathematics and music deal with abstract structures, so if you become good at one, then it is plausible that you become good at something more general - handling abstract structures - that helps you with the other. If this is correct, then it would show a connection between mathematical and musical ability, but not the kind of obscure connection that people hope for.

5

Of course, abstract structures are not confined to mathematics and music. If you are learning a foreign language then you need to understand its grammar and syntax, which are prime examples of abstract structures. And yet we don't hear people asking about a mysterious connection between mathematical ability and linguistic ability.

6

In an effort to dispel this air of contradiction, let me give one example of a general aptitude that is useful in both mathematics and music: the ability to solve problems of the "A is to B as C is to D" kind. These appear in intelligence tests (car is to garage as aircraft is to what?) but they are also absolutely central to both music and mathematics.

7

I take the view that the general question of whether mathematical ability and musical ability are related is much less interesting than some similar but more specific questions. Are musicians more drawn to certain composers (Bach, for instance)? Are musical mathematicians more drawn to certain areas of mathematics? One can imagine many interesting surveys and experiments that could be done, but for now this is uncharted territory and all we can do is speculate.

#### A.

I feel that it would be more like the straightforward link between ability at football and ability at cricket. To become better at one of those then you need to improve your fitness and co-ordination. That makes you better at sport in general.

#### В.

For example, identifying and controlling for other potentially influential factors is difficult, and as far as I know, there has been no truly convincing study of that type that has shown that musical ability enhances mathematical ability or vice versa.

## C.

The second phrase is a clear answer to the first. But one can be more precise about what this means. If you try to imagine any other second phrase, nothing seems 'right' in the way that Mozart's chosen phrase does.

#### D.

Could it be that the rewards for that time-consuming dedication spill over into other areas of intellectual

#### Ε.

My guess is that that is because the link exists but not the uncertainty: grammar feels mathematical. Music, by contrast, is strongly tied up with one's emotions and can be enjoyed even by people who know very little about it. As such, it seems very different from mathematics, so any connection between the two is appealingly paradoxical.

#### F.

It is not hard to see why such a theory would be taken seriously: we would all like to become better at mathematics without putting in any effort. But the conclusions of the original experiment have been grossly exaggerated. If you want your brain to work better, then not surprisingly, you have to put in some hard graft; there is no such thing as an intellectual perpetual-motion machine. Mozart CDs for babies and toys that combine maths and music might help, but not much, and the effects are temporary.

## G.

I believe that there is a study waiting to be done on this: are mathematicians more drawn to this rather than to other instruments? Of the mathematicians I can think of who are superb instrumentalists, all but one are pianists. While we wait for scientific evidence to back up the anecdotal evidence, can we at least argue that it is plausible that there should be a connection?

#### Н.

Music is full of little puzzles like this. If you are good at them, then

life, and in particular into mathematics? Is there any evidence that people who have worked hard to become good at music are better at mathematics than people who are completely unmusical? And in the other direction, are mathematicians better than average at music?

when you listen to a piece, expectations will constantly be set up in your mind. Of course, some of the best moments in music come when one's expectations are confounded, but if you don't have the expectations in the first place then you will miss out on the pleasure.

## D. WRITING. (60 points)

I. Finish each of the following sentences in such a way that it means exactly the sentence	before it. (10
points)	
1. It is not certain that John will defeat Tom Cruise this time.	
≥ It is open	
2. He's been to almost anywhere in England.	
™ There is	
3. You may be intelligent, but you should be very careful in this new job.	
≥ Intelligent	
4. The boy was just as good as they expected.	
> The boy certainly lived	
5. I'm sorry I didn't tell you all the truth.	
≥ I regret	
II. For each of the sentences below, write a new sentence as similar as possible in meaning	g to the original
one, using the word given. DO NOT CHANGE the word given. (10 points)	
1. Life in the countryside used to be completely different from that in the city. <b>DIFFEREN</b>	CE
<i>B</i>	
2. Waiting for buses irritates me. <b>NERVES</b>	

3. We were about to set off when we heard on the radio about the new storm. POINT

h his complaints. <b>ENOUGH</b>	
exports more coffee than any others in the country. N	NO

III. Some people believe that governments should provide care and financial support for retired people, while others think that they should save money for their own retirement. Discuss both views and give your own opinion. (40 points)