高階能力學生測試 練習題目

Higher Ability Student Test Practice Examples

數學推理 Mathematical Reasoning

此卷與一般學校的數學考試不同，旨在測試考生的數理能力。因此題目選材多元化，或別於一般學校課程內容範圍。

This paper attempts to measure mathematical ability, in contrast to a test of school achievement in mathematics. Consequently, the material used for the questions in this test is selected from a wide variety of sources, and may differ from standard school-based curriculum materials.

1. 有一些整數分別被 2, 3, 4 或 5 整除後，餘數都是 1。請找出符合以上定律的最小整數。

When a certain whole number is divided by 2, 3, 4, or 5, the remainder is 1 in each case. What is the smallest number to which this rule applies?

A 21  
B 31  
C 51  
D 61

2. 若輸入數是 -10，輸出數是多少？

If input was -10, what was the output?

A -4.5  
B -5.5  
C -19  
D -21

3. 史提芬正練習舉重以鍛鍊肌肉，他現在能舉起 60 公斤。他希望於兩個月後能舉起比現時多百分之二十的重量。試計算出他的目標舉起重數。

Steven is lifting weight to strengthen his muscles. At present he can lift 60kg. Steven is aiming to lift 20% more after two months practice. What weight is he aiming to lift?

A 66kg  
B 70kg  
C 72kg  
D 80kg

4. 第一幅圖展示了一個按一套特定準則已完全填妥的數字方格。

The first diagram shows a number square completed according to a certain rule.

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<tr>
<td>2</td>
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<td>4</td>
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<td>7</td>
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<td>35</td>
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<td>14</td>
<td>10</td>
<td>140</td>
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以下是一個未完全填妥但按相同準則製作的數字方格。

The partly completed number square is constructed according to the same rule.

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<tr>
<td>3</td>
<td>8</td>
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<td>4</td>
<td>20</td>
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「*」代表

The * represents

A 480  
B 240  
C 220  
D 192

5. 右圖早上 6 時顯示的溫度，溫度會每三十分鐘上升 1°，按此速度，甚麼時間會到達 20°？

The temperature is shown at 6:00 a.m. It is rising 1° every thirty minutes. At this rate, it will reach 20° at

A 7:15 a.m.  
B 7:30 a.m.  
C 7:45 a.m.  
D 8:00 a.m.
6. 阿麥向東走 30 米，然後向南走 70 米，再向西走 50 米，
最後向北走 50 米。
他應該如何走才可返回自己的起點？
Matt walks 30 metres East, then 70 metres South, then 50 metres West, then 50 metres North. He could return to his starting point by walking

A 向東走 50 米，然後向北 20 米
50 metres East, then 20 metres North.
B 向東走 20 米
20 metres East.
C 向東走 20 米，然後向北 50 米
20 metres East, then 50 metres North.
D 向東走 20 米，然後向北 20 米
20 metres East, then 20 metres North.

7. 阿花需要錄影一套深宵電影，它於晚上 23:20
開始，於凌晨 1:50 完結。請問她需要最短多少分鐘的錄影帶？
Fiona wants to tape a late-night movie. It begins at 23:20 p.m. and ends at 1:50 a.m. What is the shortest videotape she needs, measured in minutes?

A 60 分鐘 mins
B 90 分鐘 mins
C 120 分鐘 mins
D 180 分鐘 mins

8. 五張數字咭反轉放在枱上，故此看不見數字。其中兩張
咭的數字是偶數，三張是奇數。現在隨意抽起三張咭，
它們的總和是雙數，那剩下放在枱面的兩張咭
Five numbered cards were placed face down on a table so that the numbers could not be seen. Two of the numbers were even, three were odd. Three of the cards were picked up, and the sum of the numbers on them was an even number. Of the two cards left on the table

A 其中一張的數字一定是奇數，另一張是偶數
one must have had an odd number on it and one an even number.
B 兩張的數字都一定是偶數
both cards must have had even numbers on them.
C 兩張的數字都一定是奇數
both cards must have had odd numbers on them.
D 兩張都是偶數或兩張都是奇數
the numbers could have been even on both of them or odd on both of them

Answers 答案

1 D 2 C 3 C 4 A 5 C 6 D 7 D 8 A
**Abstract Reasoning**

This is a non-verbal test that measures abstract reasoning skills, including the capacity to make sense of complex situations, to draw meaning out of events, to perceive and think clearly. The paper will ask you to identify and complete various picture sequences and patterns.

1. In the following item, there are four shapes forming a sequence going from left to right. You are to choose from the alternatives (A, B, C and D), the one which would most logically and simply come next in the sequence.

   *Answer 答案*

   In the sequence above, the dot rotates anticlockwise, and the cross alternates between two positions. So D is the answer.

2. In the following example, five patterns can be rearranged to form a logical sequence. You are to select the alternative (A, B, C, D, or E) that most logically and simply fits in the middle of the sequence.

   *Answer 答案*

   In this example the shape in the box at the right of each row is made by combining the shapes in the first two boxes of the row, so the answer is B.

3. In the following example there is a framework of squares, triangles or other shapes. Symbols are distributed around the framework according to a pattern or a developing rule. For example, sometimes the pattern is symmetrical; sometimes a rule develops along a pathway through the pattern; sometimes gradations cross the pattern. Part of the pattern, marked with a ?, is missing. You are to choose from the alternatives A, B, C, or D, to the right of the pattern, the one that most logically and simply fits in this position.

   *Answer 答案*

   In this example the shape in the box at the right of each row is made by combining the shapes in the first two boxes of the row, so the answer is B.
此卷是設計予英語達第一語言程度的學生。此卷測試考生透過語言去理解及詮釋意念的能力。此卷將要求考生閱讀文字及資料，然後回答問題。題目範圍會包括英語、藝術、歷史、地理及社會研究等不同科目，但並不要求科目中的特定知識。題目將提供考生作答所需要的資訊，故此考生可從啟發資料中尋找到一些不認識或未能完全明白的事物。

This paper is designed for students with first language proficiency in the English language. It measures how well you can understand and interpret ideas in language. The test asks you to look at written and visual material and answer questions on it. The topics for the material may be drawn from subject areas such as English, Art, History, Geography and Social Studies, though no special knowledge in these areas is needed. All the information you need to answer the questions is printed on the paper, so if you do not know or fully understand something you may be able to work out what it means from the stimulus material.

PASSAGE

The following passage is from a short story. An eighty-year-old teacher, Miss Simmons, has failed to adequately prepare her star student, Heather, for a science exam. Heather’s parents have threatened to send Heather to another school. Here, Heather and Miss Simmons are standing together in a science classroom.

The warm late-afternoon air, hazy with fine grass particles and dust, began to tickle at Miss Simmons' nose. She sneezed, and the force of the small explosion sent her tottering backwards. She shut the window – shut out the summer – and turned to the girl.

‘If you leave, I'll have to leave too,’ she said, simply.

‘I'm sorry,’ the girl said, after a pause, still averting her eyes.

Anger flared in Miss Simmons for the first time: ‘I must say I had hoped for a little more loyalty.’

A thought occurred to her: perhaps the girl was not suitable for school after all, not up to the demands and sensitivities that were required.

‘An education involves more important qualities than academic excellence,’ she added.

Tears filled the girl's eyes, magnified by her thick lenses: ‘Miss Simmons, what else can I do? I want to study medicine. I need good results. I'm not going to get in if I stay here.’

And Miss Simmons realised, clearly, for the first time: ‘I must say I had hoped for a little more loyalty.’

A thought occurred to her: perhaps the girl was not suitable for school after all, not up to the demands and sensitivities that were required.

‘An education involves more important qualities than academic excellence,’ she added.

Tears filled the girl's eyes, magnified by her thick lenses: ‘Miss Simmons, what else can I do? I want to study medicine. I need good results. I'm not going to get in if I stay here.’

And Miss Simmons realised, clearly, for the first time, that she was asking too much, far too much; she was horrified at the words she had spoken.

‘I'm sorry,’ she said, ‘Of course you're right.’

The girl looked directly at her teacher, blinking through her tears, surprised.

‘Maybe I could stay,’ she said, ‘if we worked together. And here, in the new laboratory ...’

‘No,’ Miss Simmons said firmly. ‘You should go. We should go.’

The girl rose and came to her, and they hugged, and stayed locked together for a moment, the girl’s face resting on her shoulder.

‘I'll never forget you, Miss Simmons,’ she said, a phrase the teacher had heard from her favourite charges at the beginning of summer each year for the last fifty years, but now, she realised quite suddenly, for the last time, as the bell rang outside, and the chemistry lesson was over, and all the years before it.

Questions 1 — 5 refer to the passage.

1 Consider this sentence: ‘She sneezed, and the force of the small explosion sent her tottering backwards’. The action makes Miss Simmons seem
   A frail.
   B clumsy.
   C nervous.
   D powerful.

2 When Miss Simmons says, 'If you leave, I'll have to leave too', her intention is to
   A show support for Heather.
   B instigate Heather's departure.
   C manipulate Heather into staying.
   D provide Heather with an excuse to leave.

3 When Heather says, 'I want to study medicine. I need good results. I'm not going to get in if I stay here', she is being
   A stubborn.
   B practical.
   C rebellious.
   D impulsive.

4 Miss Simmons is 'horrified at the words she had spoken' because she realises that she is
   A thinking only of herself.
   B not going to get her way.
   C asking too much of herself.
   D letting Heather manipulate her.

5 When Heather says, 'I'll never forget you, Miss Simmons', Miss Simmons' reacts with
   A satisfaction.
   B resentment.
   C sombre reflection.
   D renewed determination.

Answers
1 A  2 C  3 B  4 A  5 C