

中文統考 (範例)

一、基礎知識

1、下列詞語中，劃線的字讀音完全正確的一項是：

- A. 一丘之貉 (hé) 剔 (tī) 透 厭惡 (è)
B. 鱗次櫛 (zhì) 比 追溯 (sù) 粗獷 (kuàng)
C. 暴虎馮 (féng) 河 關卡 (kā) 憤懣 (mèn)
D. 瞠 (chēng) 目結舌 乾涸 (hé) 徘徊 (huái)

2、下列詞語字形全部正確的一項是：

- A. 畸形 勞祿 家喻戶曉
B. 蕭瑟 辯別 眼花瞭亂
C. 勻稱 偉岸 不勝枚舉
D. 參天 提防 聲名狼籍

3、下列漢字中都是象形字的一項是：

- A. 火 天 下 B. 亦 我 莫
C. 燕 山 井 D. 刃 末 首

4、下列現代漢字的構成方式中，構字最多的一項是：

- A. 象形字 B. 指事字
C. 形聲字 D. 會意字

5、下列句子中有錯別字的一項是：

- A. 聽了她的深情傾訴，老李也禁不住動了惻隱之心。
B. 既使你有出眾的才華，也不能這樣張狂地炫耀自己。
C. 這首詩飽含着真情實感，讓那些蒼白的口號詩相形見絀。
D. 快意同舒適像是一對孿生兄弟，時而相傍相依，時而南轅北轍。

6、依次填入下列句中橫線上的詞語，最恰當的一項是：

- ①我們進行了合理的分工，_____建立了崗位責任制。
②由於這些條件的吸引，_____收費驚人，許多家長依然趨之若鶩。
③與會的很多國家認為，嚴厲打擊國際恐怖活動無可厚非，但草木皆兵，隨意擴大戰爭範圍，則_____輕率。

- A. 從而 不管 失之 B. 進而 儘管 有失
C. 進而 儘管 失之 D. 從而 不管 有失

7、合成詞“年輕、雪崩、膽怯、自願”的合成方式正確的一項是：

- A. 聯合式 B. 偏正式
C. 補充式 D. 主謂式

8、下列各組每項有兩句話，意思不一致的一項是：

- A. 獲得是一種滿足，給予是一種快樂。
獲得是一種滿足，給予何嘗不是一種快樂！
B. 一時的錯誤不會毀掉一個性格堅強的人。
一個性格堅強的人不會被一時的錯誤毀掉。
C. 因為物種豐富、生態平衡，所以環境更美好。
環境因物種豐富、生態平衡而更美好。
D. 這個社區的建設規劃，沒有可取之處。
這個社區的建設規劃，不無可取之處。

9、下列句子中沒有錯誤的一項是：

- A· 是否具有良好的心理素質，是考試取得好成績的條件之一。
- B· 北京博物院展出了新出土的兩千多年前的文物。
- C· 為了防止這類交通事故不再發生，我們加強了交通安全的教育和管理。
- D· 我們聽到的是歡樂的歌聲和愉快的笑容。

10、下列各句中，成語使用恰當的一項是：

- A. 同學們經常向老師請教，這種不恥下問的精神值得提倡。
- B. 我本來就對那裏的情況不熟悉，你卻硬要派我去，這不是差強人意嗎？
- C. 坐在筆者身邊的一位外國記者忍俊不禁，嘖嘖一聲笑起來了。
- D. 面對不幸，是怨天尤人，還是勇敢地迎接命運的挑戰呢？

11、下列句子沒有歧義的一項是：

- A· 被打的是姐姐。
- B· 那篇文章你給我看看。
- C· 自行車沒有鎖。
- D· 他們多半來了。

12、填入下列橫線上最恰當的一項是：

認真閱讀的結果，不但隨時會發現晶瑩的寶石，_____於是收取那些值得取的，排除那些不足取的，自己才會漸漸成長起來。

- A· 也不免發現令人遺憾的粗劣句子。
- B· 也隨時會發現粗劣的瓦礫。
- C· 也隨時會發現令人遺憾的粗劣句子。
- D· 也會隨時發現溫潤的璞玉。

13、下列八句話，按順序排列正確的一項是：

- ①大疑得大知 ②小疑獲小進 ③為學貴有疑 ④知疑且善問
 - ⑤問師可釋疑 ⑥知疑貴問師 ⑦學成必無疑 ⑧釋疑則有知
- A· ②①④⑦③⑥⑤⑧ B· ②①④⑥⑤⑧③⑦
- C· ③⑥⑤⑧②①④⑦ D· ④③⑥⑧②⑤①⑦

14、下面四個複句中，為並列複句的一項是：

- A· 下午我不是在教室，就是在圖書館。
- B· 不是我不願意去，實在是我太忙了。
- C· 雨沒有停，而且下得更大了。
- D· 要麼你去，要麼我去，要麼大家都不去。

15、下列句子中，用了擬人修辭手法的一項是：

- A· 我沿着擁擠的、歡樂的石板路尋覓。
- B· 只有小草在歌唱。
- C· 從清清的水影裏，我們感到的只是薄薄的夜——這正是秦淮河的夜。
- D· 眾鳥高飛盡，孤雲獨去閑。

16、下列句子中，標點符號使用正確的一項是：

- A· 山海關，這號稱天下“第一關”的山海關！
- B· 山海關，這號稱：“天下第一關”的山海關！
- C· 山海關，這號稱“天下第一關”的山海關！
- D· 山海關！這號稱“天下第一關”的山海關！

17、下列詩句含有憂傷情緒的一項是：

- A·海內存知己，天涯若比鄰。
- B·桃花潭水深千尺，不及汪倫送我情。
- C·勸君更盡一杯酒，西出陽關無故人。
- D·孤帆遠影碧空盡，唯見長江天際流。

18、在“精衛填海”的故事裏，“精衛”是：

- A·一個人
- B·一隻鳥
- C·一隻猴子
- D·一條龍

19、下列有關文學常識表述有錯誤的一項是：

- A·初唐“四傑”是指杜牧、王勃、駱賓王、王維。
- B·普希金，俄國詩人，俄羅斯近代文學的奠基者。
- C·茅盾，現代著名作家，其代表作有長篇小說《子夜》、中篇小說《林家鋪子》。
- D·蒲松齡，清代小說家。他的代表作《聊齋志異》是我國古代優秀的文言短篇小說集。

20、下列句子中，傳統禮貌稱謂使用正確的一項是：

- A·這是您家母托我買的，您直接交給她就行了。
- B·令媛這次在兒童畫展上獲獎，多虧您悉心指導，我們全家都很感謝您。
- C·我們家家教很嚴，令尊常常告誡我們，到社會上要清清白白做人。
- D·令郎不愧是丹青世家子弟，他畫的馬惟妙惟肖，栩栩如生。

二、閱讀理解

(一) 現代文選

閱讀下面的文字，完成21—25題。

淺談漢語國際化發展趨勢

目前，在國內外都能感受到撲面而來的漢語熱潮。漢語國際化的規模和速度已引起媒體和社會各界的關注，漢語的主體走向更成為人們關注和思考的熱點問題之一。根據漢語國際化進程特別是近年來漢語已經成為強勢語言的發展現實，**我們有理由認為**，在可預見的將來，漢語的國際化、強勢化走勢將是令人鼓舞的。

在現代社會，一種語言要想成為國際通用語，不可能再像早期殖民帝國那樣通過殖民統治和強權政治來實現。現代國際通用語的出現或形成，離不開歷史的基礎，但更是國際社會現實、公正、自主、自願的選擇，強權政治、強迫推廣是無效的。因此，一種語言要想成為國際通用語言，最基本的前提就是國際化，並在國際化的基礎上保持持續的強勢發展態勢。強勢化發展是國際化語言向國際通用語言過渡的不可或缺的關鍵環節和必經的發展之路。

目前，漢語國際化有一個鮮明的特點，那就是以中國為輻射源，圍繞這個中心，周邊的亞洲國家漢語學習熱潮高漲，並持續升溫，構成漢語國際化的熱點波段區。其中，尤以韓國、日本、蒙古、越南等國為最；然後是美洲、歐洲、大洋州和非洲等國家。**這種狀況**就像投石水中激起層層波浪一樣，距離中心越近，波勢就越強。其成因固然是多方面的，但最重要的有兩點：一是，亞洲國家同中國相距不遠，堪稱近鄰，中國的變化發展，他們感受最直接、最強烈；二是，亞洲的一些國家如東亞的韓國、日本等，同中國的文化背景相近，相對容易接受漢語。但是，從語言傳播的歷史和規律看，_____，中國周邊以外的國家對中國也同樣具有強烈的興趣。

在漢語的傳播管道中，民間管道和傳媒管道曾在早期國際化進程中發揮過重要作用。隨着中國改革開放進程的不斷深入以及綜合國力的不斷提昇，官方管道、企業管道和組合管道的作用日益凸顯。因此，未來的漢語傳播，將形成官方管道、民間管道、企業管道、傳媒管道和組合管道為主體，個人管道為補充的全方位傳播格局，漢語的國際化將因傳播管道的不斷豐富和擴展而全面走強。

21、“我們有理由認為”所依據的理由主要是：

- A·在國內外都能感受到撲面而來的漢語熱潮
- B·漢語國際化的規模和速度已引起媒體和社會各界的關注
- C·漢語國際化進程特別是近年來漢語已經成為強勢語言的發展現實
- D·漢語的主體走向成為人們關注和思考的熱點問題

22、“這種狀況”是指：

- A·漢語國際化的狀況
- B·中國成為國際化的輻射源
- C·國際通用語的出現或形成
- D·亞洲國家構成漢語國際化的熱點波段區

23、下面最適合填入文中劃線處的一項是：

- A·地域因素是唯一的決定性因素
- B·地域因素不能不說是唯一的決定性因素
- C·地域因素並不是唯一的決定性因素
- D·地域因素並不是唯一的決定性因素之一

24、下列理解與原文不符合的一項是：

- A·漢語的國際化、強勢化走勢將是令人鼓舞的
- B·東亞的韓國、日本等相對容易接受漢語
- C·強勢化發展是國際化語言向國際通用語言過渡的必經的發展之路
- D·現代國際通用語的出現或形成依賴於強權政治

25、下列表述正確的一項是：

- A·漢語國際化的熱點波段區主要是韓國、日本
- B·未來的漢語傳播將形成全方位傳播格局
- C·民間管道在漢語國際化進程中發揮着決定性作用
- D·早期殖民帝國通過殖民統治和強權政治來實現漢語國際化

(二) 古代文選

閱讀《鄒忌調齊王納諫》（《戰國策》），完成26——30題

鄒忌修八尺有餘，形貌昳麗。朝服衣冠，窺鏡，謂其妻曰：“我孰與城北徐公美？”其妻曰：“君美甚，徐公何能及君也！”城北徐公，齊國之美麗者也。忌不自信，而復問其妾，曰：“吾孰與徐公美？”妾曰：“徐公何能及君也！”旦日，客從外來，與坐談，問之客曰：“吾與徐公孰美？”客曰：“徐公不若君之美也。”明日，徐公來，孰視之，自以為不如；窺鏡而自視，又弗如遠甚。暮寢而思之，曰：“吾妻之美我者，私我也；妾之美我者，畏我也；客之美我者，欲有求於我也。”

（鄒忌）於是入朝見威王，曰：“臣誠知不如徐公美。臣之妻私臣，臣之妾畏臣，臣之客欲有求於臣，皆以美於徐公。今齊地方千里，百二十城，宮婦左右莫不私王，朝廷之臣莫不畏王，四境之內莫不有求於王。由此觀之，王之蔽甚矣。”

王曰：“善。”乃下令：“群臣吏民能面刺寡人之過者，受上賞；上書諫寡人者，受中賞；能謗議於市朝，聞寡人之耳者，受下賞。”令初下，群臣進諫，門庭若市；數月之後，時時而間進；期年之後，雖欲言，無可進者。燕、趙、韓、魏聞之，皆朝於齊。此所謂戰勝於朝廷。

26、朗讀下面的文言句子，語氣停頓有錯誤的一項是：

- A·臣/誠知/不如徐公美
- B·臣之妻/私臣，臣之妾/畏臣
- C·今齊地方/千里，百二十/城
- D·上書/諫寡人者，受/中賞

27、下列劃線字的解釋有錯誤的一項是：

- A·今齊地方千里（地域，表處所）
- B·臣誠知不如徐公美（確實）
- C·朝服衣冠，竄鏡（察看）
- D·吾妻之美我者，私我也（偏愛）

28、與例句中劃線的“之”用法相同的一項是：

燕、趙、韓、魏聞之，皆朝於齊。

- A·客之美我者，欲有求於我也
- B·暮寢而思之
- C·臣之妾畏臣
- D·何陋之有

29、下列沒有詞類活用的一項是：

- A·吾妻之美我者
- B·能面刺寡人之過者
- C·聞寡人之耳者
- D·老吾老以及人之老

30、下列對文意理解不正確的一項是：

- A·鄒忌身材魁梧，儀表堂堂，因此他才敢和齊國美男子比美。妻、妾、客人也異口同聲地認為他比徐公漂亮。
- B·鄒忌在一片讚美聲中昏昏然，甚至沾沾自喜，直到親眼見到徐公才醒悟過來。
- C·鄒忌由自己的切身體會想到國君不易聽到直言的道理，於是進見威王，以事設喻啟發誘導，使威王決心納諫。
- D·齊威王接受鄒忌勸告，懸賞納諫，廣開言路。後來終於使齊國政治清明，國勢強盛，贏得了諸侯的尊敬。

英文統考 (範例)

General English Exam (past paper)

Section 1 Grammar

Instructions: Choose the one alternative that best completes the sentence.
(1 mark each)

1. I finished my homework, but my younger sister _____.

- a) don't
- b) didn't
- c) doesn't
- d) wasn't

2. I'll meet you _____ the bus stop.

- a) on
- b) at
- c) for
- d) in

3. I don't need much time _____ my homework.

- a) to finish
- b) finish
- c) finishing
- d) finished

4. I'm busy at the moment. _____ on the computer.

- a) I work
- b) I'm work
- c) I'm working
- d) I have worked

5. We _____ a holiday since December.

- a) do not have
- b) have not had
- c) have not done
- d) do not had

6. Please wait for a while. She _____ down in a minute.

- a) coming
- b) was coming
- c) will come
- d) has come

7. We _____ by a loud noise last night.

- a) woke up
- b) are woken up
- c) were woken up
- d) were waking up

8. Peter is the only man _____ I know in Chicago.

- a) whose
- b) which
- c) whom
- d) when

9. These shoes are uncomfortable. I'm going to _____.

- a) take off
- b) take them off
- c) take off them
- d) take them

10. The conference _____ a full week by the time it ends.

- a) will have lasted
- b) will be lasting
- c) would last
- d) has lasted

11. The president promised to keep all the board members _____ of how the negotiations were progressing.

- a) inform
- b) informing
- c) be informed
- d) informed

12. If the earth suddenly _____ spinning, we would all fly off it.

- a) stopped
- b) had stopped
- c) has stopped
- d) is stopping

Section 2 Vocabulary

**Instructions: Choose the one alternative that best completes the sentence.
(1 mark each)**

13. Our country suffers from an unsustainable budget _____.

- a) deficit
- b) estimate
- c) debtor
- d) bill

14. Electronic data _____ is commonly used in business management.

- a) mouse
- b) processing
- c) hardware
- d) modem

15. A _____ is a child's physician who cares for children.

- a) surgeon
- b) pediatrician
- c) ophthalmologist
- d) psychiatrist

16. A _____ is a musician who writes melodies.

- a) composer
- b) soprano
- c) conductor
- d) singer

17. It took many years for him to get a black belt in _____.

- a) bowling
- b) tennis
- c) cycling
- d) judo

18. Portuguese was the only official _____ of Macau before Macau's return to China in 1999.

- a) linguistics
- b) linguist
- c) bilingual
- d) language

19. The fire in the house was quickly _____ out.

- a) run
- b) set
- c) put
- d) caught

20. This shop sells a _____ range of goods.

- a) long
- b) high
- c) deep
- d) broad

21. He was _____ from prison two years ago.

- a) committed
- b) charged
- c) accused
- d) released

22. This American film is _____, so you hear what the characters are saying in Chinese.

- a) entitled
- b) dubbed
- c) shot
- d) voiced

23. A pipe was leaking and the bathroom was _____.

- a) twisted
- b) banged
- c) bruised
- d) flooded

24. If you lose the _____, you won't be able to access this website.

- a) search engine
- b) listing
- c) password
- d) surfer

Section 3 Reading

Passage # 1

Instructions: Read the following passage and for each question below it choose the one best alternative from (a), (b), (c), (d).

(1 mark each)

Jane Austen (1775 - 1817)

Jane Austen was an English novelist whose books, set among the English middle and upper classes, are notable for their wit, social observation and insights into the lives of early 19th century women.

Jane Austen was born on 16th December 1775 in the village of Steventon in Hampshire and lived her entire life as part of a close-knit family located on the lower fringes of the English gentry. Her immediate family was large: six brothers and one sister who, like Jane, died unmarried. Jane was very close to her sister throughout her life and of her brothers, she felt closest to Henry, who became a banker and later an Anglican clergyman.

She was educated primarily by her father and older brothers, as well as through her own reading, and she began to write when she was still a teenager. In 1801 the family moved to Bath. After the death of her father in 1805, Jane and her sister Cassandra and their mother moved several times, eventually settling in Chawton, near Steventon.

The loyal and generous support of her family was critical to her development as a professional writer, and it was Jane's brother Henry who helped her negotiate with a publisher and her first novel, 'Sense and Sensibility', appeared in 1811. Her next novel, 'Pride and Prejudice', which she described as her 'own darling child', received highly favourable reviews. This was followed by 'Mansfield Park', which was published in 1814, and then 'Emma' in 1816. 'Emma' was dedicated to the prince regent, an admirer of her work, yet all of Jane Austen's novels were published anonymously.

In 1816, Jane began to suffer from ill-health, probably due to Addison's disease. Even though she travelled to Winchester to receive treatment, she died there on 18th July 1817. Two more novels, 'Persuasion' and 'Northanger Abbey' were published posthumously and a final novel was left incomplete.

Questions 25-30:

Choose the one best alternative from the four options (a), (b), (c) and (d):

25. Jane Austen came from...

- | | |
|------------|-------------|
| a) Ireland | b) America |
| c) England | d) Scotland |

26. Jane Austen and her sister were like one another because they were...

- | | |
|--------------|--------------|
| a) beautiful | b) clever |
| c) twins | d) unmarried |

27. What does the expression "a close-knit family" (paragraph 2) mean?

- | | |
|--|--|
| a) They did lots of things together and looked after each other. | b) They knitted woolen jumpers together. |
| c) They liked to do things on their own. | d) They kept away from people. |

28. Jane Austen started writing when she was...

- a) 6 years old
- b) 13-19 years old
- c) 30 years old
- d) 40 years old

29. Jane Austen's 'own darling child' was...

- a) her daughter
- b) her sister
- c) her niece
- d) her book 'Pride and Prejudice'

30. What does the word "posthumously" (paragraph 5) mean?

- a) funny
- b) after death
- c) unfinished
- d) incomplete

Passage # 2

Instructions: Read the following passage and for each question below it choose the one best alternative from (a), (b), (c), (d).

(1 mark each)

Bengal Tiger

Tigers are the largest members of the cat family and are renowned for their power and strength. There were eight tiger subspecies at one time, but three became extinct during the 20th century. Moreover, during the last 100 years or so, hunting and forest destruction have substantially reduced tiger populations from hundreds of thousands of animals to perhaps fewer than 2,500 in the wild today. Tigers are not only hunted as trophies, but also for body parts that are used in traditional Chinese medicine. All five remaining tiger subspecies are endangered, and many protection programs are in place.

Bengal tigers live in India and are sometimes called Indian tigers. They are the most common tiger and number about half of all wild tigers. Over many centuries they have become an important part of Indian tradition and lore.

Tigers live alone and aggressively scent-mark large territories to keep their rivals away. They are powerful nocturnal hunters that travel many miles to find buffalo, deer, wild pigs, and other large mammals. Tigers use their distinctive coats as camouflage (no two tigers have exactly the same stripes), and when hunting they lie in wait and creep close enough to attack their victims with a quick spring and a fatal pounce. A hungry tiger can eat as much as 60 pounds (27 kilograms) in one night, though they usually eat less.

Despite their fearsome reputation, most tigers avoid humans; however, a few do become dangerous man-eaters. However, these animals are often sick and unable to hunt normally, or live in an area where their traditional prey has vanished.

Females give birth to litters of two to six cubs, which they raise with little or no help from the male. Cubs cannot hunt until they are 18 months old and remain with their mothers for two to three years, when they disperse to find their own territory.

Questions 31-36:

Choose the one best alternative from the four options (a), (b), (c) and (d):

31. Which one of the following statements is NOT true according to the text?

- a) Eight tiger species have become extinct in the 20th century
- b) There are perhaps fewer than 2500 left in the wild in the world today
- c) Hunting and forest destruction have helped cause their decline
- d) Many protection programs are in place

32. They are called Bengal tigers because they live in...

- a) Africa
- b) India
- c) Nepal
- d) Malaysia

33. The expression "They are powerful nocturnal hunters" (paragraph 3) means...

- a) They travel miles for food
- b) They hunt on their own
- c) They scent-mark large territories
- d) They hunt at night

34. Which one of the following is true about the way tigers hunt, according to the text?

- a) They drop from trees to catch animals
- b) They attack from a distance
- c) They are quick, quiet and hunt close to their prey
- d) They hunt in groups

35. According to the text, some tigers become man-eaters because...

- a) they become sick and unable to hunt
- b) tourists feed them
- c) they get lazy
- d) they like the taste of humans

36. A synonym for "disperse" (paragraph 5) is...

- a) to separate widely
- b) to come together
- c) to become pregnant
- d) to shed fur

數學統考 (範例)

Choose the best answer for each question.

請選出每題之最佳答案

1. If (若) $f(x) = 3 - 2x + x^2$, then (則) $\frac{f(x+t) - f(x)}{t} =$

- (a) $t^2 + 2xt - 2t$ (b) $x^2t^2 - 2xt + 3$ (c) $t + 2x - 2$
(d) $2x - 2$ (e) None of the above 以上皆非

2. If (若) $x \geq 0$ and (及) $\arcsin x = \arccos(2x)$, then (則) $x =$

- (a) 0.447 (b) 0.500 (c) 0.636 (d) 0.707 (e) 0.866

3. How many ways can 2 identical red chairs and 4 identical blue chairs be arranged in one row?

有多少個方法可以將 2 張同樣的紅椅和 4 張同樣的藍椅排列成一行?

- (a) 6 (b) 15 (c) 21 (d) 24 (e) 30

4. If 2 is a root of the function $f(x) = 6x^3 - 11x^2 - 3x + 2$, what are the other roots?

若 2 是函數 $f(x) = 6x^3 - 11x^2 - 3x + 2$ 的一個根，求其他的根。

- (a) $-1/3, -1/2$ (b) $-1/3, 1/2$ (c) $1/3, -1/2$
(d) $1/3, 1/2$ (e) 2, 3

5. The domain of $f(x) = \log(\sin x)$ contains which of the following intervals?

$f(x) = \log(\sin x)$ 的定義域包含了下列哪個區間?

- (a) $-\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$ (b) $0 \leq x \leq \pi$ (c) $-\frac{\pi}{2} < x < \frac{\pi}{2}$
(d) $0 < x < \pi$ (e) $\frac{\pi}{2} \leq x \leq \frac{3\pi}{2}$

6. If $\log_2(x^2 - 3) = 5$, which of the following could be the value of x ?

若 $\log_2(x^2 - 3) = 5$ ，下列哪個可以是 x 的值?

- (a) 6.13 (b) 5.92 (c) 5.75 (d) 5.29 (e) 3.61

7. Which of the following polynomials, when divided by $3x + 4$ equals $2x^2 + 5x - 3$ with remainder 3?

下列哪個多項式除以 $3x + 4$ 可得出商 $2x^2 + 5x - 3$ 和餘數 3?

- (a) $6x^3 + 23x^2 - 11x - 12$ (b) $6x^3 + 23x^2 - 11x - 9$ (c) $6x^3 + 23x^2 - 11x - 15$
(d) $6x^3 + 23x^2 + 11x - 12$ (e) $6x^3 + 23x^2 + 11x - 9$

8. If $a_1 = 3$ and $a_n = n + a_{n-1}$, the sum of the first five terms is

若 $a_1 = 3$ 及 $a_n = n + a_{n-1}$ ，則首五項之和是

- (a) 17 (b) 30 (c) 42 (d) 45 (e) 68

9. What is the probability of drawing a spade or a king from a deck of 52 cards?

從一副標準的紙牌(共 52 張)中, 抽得一張黑桃或王的概率是多少?

- (a) $23/52$ (b) $19/52$ (c) $17/52$ (d) $7/13$ (e) $4/13$

10. How many positive integers are there in the solution set of $\frac{x}{x-2} > 5$?

$\frac{x}{x-2} > 5$ 的解集中有多少個正整數?

- (a) 0 (b) 2 (c) 4 (d) 5 (e) 15

11. Given $(1-2x^2)^7 = b_0 + b_1x^2 + b_2x^4 + \dots + b_7x^{14}$, find the sum of the absolute values of b_1, b_2, \dots, b_7 (i.e., $|b_1| + |b_2| + |b_3| + \dots + |b_7|$).

已知 $(1-2x^2)^7 = b_0 + b_1x^2 + b_2x^4 + \dots + b_7x^{14}$ 。求係數 b_1, b_2, \dots, b_7 的絕對值之和, 即 $|b_1| + |b_2| + |b_3| + \dots + |b_7|$ 。

- (a) 2183 (b) 2184 (c) 2185 (d) 2186 (e) 2187

12. Let a be a constant. If, for all real numbers x , $\left(\frac{1}{2}\right)^{x^2-2ax} < 2^{3x+a^2}$, which of the following is true?

設 a 為常數。若對於所有實數 x 均有 $\left(\frac{1}{2}\right)^{x^2-2ax} < 2^{3x+a^2}$, 下列哪一個成立?

- (a) $0 < a < 1$ (b) $a < \frac{3}{4}$ (c) $a > \frac{3}{4}$
(d) $0 < a < \frac{3}{4}$ (e) None of the above 以上皆非

13. Box A contains eight balls, of which three are black, and box B contains five balls, of which two are black. A ball is drawn at random from each box. What is the probability that one ball is black and the other is not?

盒子 A 有八個球, 其中三個是黑色的, 而盒子 B 有五個球, 其中兩個是黑色的。若從每個盒子中隨機抽出一球, 則一個是黑球而另一個不是黑球的概率是多少?

- (a) 0.225 (b) 0.475 (c) 0.5313 (d) 0.625 (e) 0.85

14. If John attends class 80% of the time and Peter attends class 60% of the time, and the absences of the two students are independent, what is the probability that at least one of the two students will be in class on a given day?

若約翰的上課出席率為 80%, 彼得的出席率為 60%, 且兩人的缺課率是獨立的, 則兩人之中至少一人在指定的一天有出席的概率是多少?

- (a) 0.42 (b) 0.48 (c) 0.92 (d) 0.96 (e) 0.98

15. Let A and B be the points $(3, -8)$ and $(-7, 4)$ respectively. Find the equation of the line passing through the midpoint of AB and perpendicular to $3x - 4y + 14 = 0$.

設 A 和 B 分別為點 $(3, -8)$ 和 $(-7, 4)$ 。求通過 AB 的中點並且垂直於 $3x - 4y + 14 = 0$ 的直線之方程式。

- (a) $4x + 3y + 14 = 0$ (b) $3x + 4y + 14 = 0$ (c) $3x - 4y - 1 = 0$

$$(d) 4x - 3y + 14 = 0$$

$$(e) 4x + 3y - 14 = 0$$

16. Four different circles are drawn on the same plane. Determine the maximum number of intersection points.

在同一平面上有四個不同的圓，最多有多少個交點？

- (a) 8 (b) 9 (c) 10 (d) 12 (e) 16

17. Consider an arithmetic sequence 110, 116, 122, 128, How many terms between 450 and 600 are there in the sequence?

對算術數列 110, 116, 122, 128, ... 來說，在 450 與 600 之間共有多少項？

- (a) 24 (b) 25 (c) 26 (d) 27 (e) 28

18. Tom has 18 Australia stamps and 12 US stamps. Peter has 20 Australia stamps and 10 US stamps. If they exchange one of their stamps at random, what is the probability that their numbers of stamps of the two countries remain the same?

湯姆有 18 枚澳洲郵票和 12 枚美國郵票，而彼得有 20 枚澳洲郵票和 10 枚美國郵票。若他們各自隨機地選出一枚郵票來交換，兩人擁有的兩國郵票數目維持相同的概率是多少？

- (a) 0.5333 (b) 0.6 (c) 0.7333 (d) 0.8 (e) 0.8667

19. The area of a triangle with height x cm is 36 cm^2 . If its base is decreased by 2 cm and its height is increased by 4 cm, then its area is decreased by 4 cm^2 . Which of the following equations can be used to solve for x ?

已知一個高度為 x cm 的三角形面積為 36 cm^2 。若其底減少 2 cm，高增加 4 cm，則面積會縮小 4 cm^2 。下列哪一個方程式可用來求 x 之值？

(a) $\left(\frac{72}{x} - 2\right)(x + 4) = 36$ (b) $\left(\frac{64}{x} - 2\right)(x + 4) = 36$

(c) $\left(\frac{36}{x} - 2\right)(x + 4) = 72$ (d) $\left(\frac{36}{x} - 2\right)(x + 4) = 32$

(e) $\left(\frac{72}{x} - 2\right)(x + 4) = 64$

20. Solution A contains 20% alcohol and solution B contains 70% alcohol. How many liters of solution A and how many liters of solution B we have to mix in order to obtain 100 liters 40% alcohol solution?

溶液 A 含有 20% 酒精而溶液 B 含有 70% 酒精。需要混合多少升的溶液 A 和多少升溶液 B 才能得到 100 升含 40% 酒精的溶液？

(a) 80 liters of A and 20 liters of B 80 升溶液 A 和 20 升溶液 B

(b) 70 liters of A and 30 liters of B 70 升溶液 A 和 30 升溶液 B

(c) 65 liters of A and 25 liters of B 65 升溶液 A 和 25 升溶液 B

(d) 59 liters of A and 41 liters of B 59 升溶液 A 和 41 升溶液 B

(e) None of the above 以上皆非

例題答案

中文卷

1. D	2. C	3. C	4. C	5. B	6. C
7. D	8. D	9. B	10. D	11. A	12. B
13. C	14. B	15. B	16. C	17. C	18. B
19. A	20. D	21. C	22. B	23. C	24. D
25. B	26. C	27. A	28. B	29. C	30. B

英文卷

1. b	2. b	3. a	4. c	5. b	6. c
7. c	8. c	9. b	10. a	11. d	12. a
13. a	14. b	15. b	16. a	17. d	18. d
19. c	20. d	21. d	22. b	23. d	24. c
25. c	26. d	27. a	28. b	29. d	30. b
31. a	32. b	33. d	34. c	35. a	36. a

數學卷

1. c	2. a	3. b	4. c	5. d	6. b
7. e	8. d	9. e	10. a	11. d	12. c
13. b	14. c	15. a	16. d	17. b	18. a
19. e	20. e				