

2018 年 3 月亞太區 SAT 考試回顧

2018 年 3 月 SAT 亞太區首考結束，菁英教研團隊第一時間全方位回顧考情，為亞太地區最詳細、最準確、最權威，希望對本次考試的考生，以及準備參加今年 5 月亞太和 8 月北美的考生有所幫助。

整體綜覽

1. **閱讀本次篇章難度水準趨於正常**，順序類似於 2017 年 8 月北美出題，循證題、詞彙題、圖表題依舊主導學生作答水準。
2. **文法難度居中，考點符合常規**，後兩篇語義題居多，語篇題難度較上次 12 月亞洲較為容易。
3. **數學考試難度偏低**，相較 12 月考試更強調對函數的透徹理解，以及用數學知識解決實際問題的能力。
4. **作文難度居中偏簡單**。



Section 1 閱讀測驗

【第一篇】

文章概述

作者 Ayana Mathis · 原文出自於 The Twelve Tribes of Hattie. This passage is set in 1923.

文章主要內容

主人公 Hattie 到達費城火車站的所見所聞以及對該城市看法的轉變；

第一段：Hattie 和她的 Mother 及 Sisters 坐了三十二小時的火車到達費城，費城火車站人山人海，Hattie 被擠出車站，Sisters 和 Mother 並沒有跟上來；

第二段：Hattie 在火車站外看到費城街上景象，感慨自己可以在這座城市待下來，但內心仍然緊張不安；Hattie 在人群中找 Mother 和 Sisters，但是沒有找到；

第三段：Hattie 看到一個黑人婦女向一個白人花商買花；

第四段：黑人婦女不小心把花瓶打碎了，花摔在地上，Hattie 認為一場衝突在即，街上的黑人應該都不會捲入這場衝突，但黑人婦女重新給了錢，買了花，這場衝突和平解決；

第五段：Hattie 看著街上黑人們的一舉一動，內心改變了對這座城市的看法，決心留在這裡；

題目回顧

1. 主旨題：Which choice can best summarize the passage?
2. 目的題：考察文章第一段片語 “round as a marble in her mouth” 和 “a needle in her chest” 的效果和目的；
3. 細節題：Hattie 在車站和 Mother 及 Sisters 分開，對她造成了什麼影響；
4. 詞彙題：原文詞彙是 gained，選項詞彙有 reached, increased；
5. Hattie 第一次來到費城，她對費城的生活的態度是什麼樣的；
6. 上一題詢證；
7. 黑人婦女和白人花商之間的衝突在即，Hattie 認為 many black people 對此會是什麼反應；
8. 上一題詢證；
9. 目的題：文章最後一段第一句 Hattie looks more closely at the crowds on the street 的作用；

10.文章最後一段·文章將費城街上的四個談笑的 black girls 和佐治亞街上的 white girls 做了怎樣的對比；

文章原文

THIRTY-TWO HOURS AFTER Hattie and her mother and sisters crept through the Georgia woods to the train station, thirty-two hours on hard seats in the commotion of the Negro car, Hattie was startled from a light sleep by the train conductor's bellow, "Broad Street Station, Philadelphia!" Hattie clambered from the train, her skirt still hemmed with Georgia mud, the dream of Philadelphia round as a marble in her mouth and the fear of it a needle in her chest. Hattie and Mama, Pearl and Marion climbed the steps from the train platform up into the main hall of the station. It was dim despite the midday sun. The domed roof arched. Pigeons cooed in the rafters. Hattie was only fourteen then, slim as a finger. She stood with her mother and sisters at the crowd's edge, the four of them waiting for a break in the flow of people so they too might move toward the double doors at the far end of the station. Hattie stepped into the multitude. Mama called, "Come back! You'll be lost in all those people. You'll be lost!" Hattie looked back in panic; she thought her mother was right behind her. The crowd was too thick for her to turn back, and she was borne along on the current of people. She gained the double doors and was pushed out onto a long sidewalk that ran the length of the station.

The main thoroughfare was congested with more people than Hattie had ever seen in one place. The sun was high. Automobile exhaust hung in the air alongside the tar smell of asphalt softening in the heat and the sickening odor of garbage rotting. Wheels rumbled on the paving stones, engines revved, paperboys called the headlines. Across the street a man in dirty clothes stood on the corner wailing a song, his hands at his sides, palms upturned. Hattie resisted the urge to cover her ears to block the rushing city sounds. She smelled the absence of trees before she saw it. Things were bigger in Philadelphia—that was true—and there was more of everything, too much of everything. But Hattie did not see a promised land in this tumult. It was, she thought, only Atlanta on a larger scale. She could manage it. But even as she declared herself adequate to the city, her knees knocked under her skirt and sweat rolled down her back. A hundred people had passed her in the few moments she'd been standing outside, but none of them were her mother and sisters. Hattie's eyes hurt with the effort of scanning the faces of the passersby.

A cart at the end of the sidewalk caught her eye. Hattie had never seen a flower vendor's cart. A white man sat on a stool with his shirtsleeves rolled and his hat tipped forward against the sun. Hattie set her satchel on the sidewalk and wiped her sweaty palms on

her skirt. A Negro woman approached the cart. She indicated a bunch of flowers. The white man stood—he did not hesitate, his body didn't contort into a posture of menace—and took the flowers from a bucket. Before wrapping them in paper, he shook the water gently from the stems. The Negro woman handed him the money. Had their hands brushed?

As the woman with the flowers took her change and moved to put it in her purse, she upset three of the flower arrangements. Vases and blossom stumbled from the cart and crashed on to the pavement. Hattie stiffened waiting for the inevitable explosion. She waited for the other Negroes to step back and away from the object of the violence that was surely coming. She waited for the moment in which she would have to shield her eyes from the woman and whatever horror would ensue. The vendor stooped to pick up the mess. The Negro woman gesture apologetically and reached into her purse again, presumably to pay for what she'd damaged. In a couple of minutes it was all settled, and the woman walked on down the street with her nose in the paper cone of flowers, as if nothing had happened.

Hattie looked more closely at the crowd on the sidewalk. The Negroes did not step into the gutters to let the whites pass and they did not stare doggedly at their own feet. Four Negro girls walked by, teenagers like Hattie, chatting to one another. Just girls in conversation, giggling and easy, the way only white girls walked and talked in the city streets of Georgia. Hattie leaned forward to watch them progress down the block. At last, her mother and sisters exited the station and came to stand next to her. "Mama," Hattie said. "I'll never go back. Never."

【第二篇】

文章概述

此題為雙篇文章對比

文章大意

Passage 1：主要採取先抑後揚的手段

第一段講印度的政府職責缺失，之前外來的統治不適合印度的風土人情，印度人民被課以重稅。

第二段話風一轉，說其實印度未來還是有希望；

第三段繼續講之前印度人民被侵略被統治，但是英國幫助其逃脫；

第四段講現在的政府雖然有犯一些錯，但是還是為人民著想；

Passage 2：

第一段文章直接說 British ruined our country，認為英國只是利用來華麗的外衣來包裝其私慾，採用愚民手段來麻痹印度人民。作者呼籲：應該認清事實，權利應該掌握在自己的手上。

題目回顧

1. 問的是 P1 文章的 main focus 是如何轉移的。需要通讀全文才能解題，但是題目難度不大：只要抓住段落大意和文章的邏輯就能解題。文章採先抑後揚，先說印度政治狀況混亂，後提到政府其實取得了較好成果。
2. 問原文何處支撐了 “British unified India” 難度不大，只要將四個選項帶入。就會發現原文有一句：(i see...dependent states)
3. 詞彙題：attend 和哪個詞意思接近：frequented / maintain / replaced / accompanied
4. 詞彙題：charge 和哪個詞意思接近：care / invasion / accusation / expense
5. 問第二篇的段落大意：文章主旨體現非常清晰鮮明：the British ruined our country
6. 問印度人民對英國統治最初的態度：原文第二篇第3-5句話直接提現：supried，即一開始認為英國是 for their good，為他們著想。
7. 問英國是用何種方式來鞏固它們在印度的統治？答案在文章第二段：通過愚民手段 fooled ignorance · blindness
8. 詞彙題：business 和以下哪個詞意思接近：objectives / likelihood / movement
9. 問 P2 作者會如何看待 P1 作者所說的英國幫助實現印度國內的穩定性：P2 作者立場鮮明，反對 P1 作者，認為只有權利在本國人手中才能實現穩定。
10. 問 P2 作者如何看 P1 作者所說的 “some plan” 難度不大：作者立場很容易看出，reject 作者在第二段認為英國是利用華麗的外衣來實現一國私慾。
11. 上題循證題

Passage 1 原文：

It is true, then, that there was too much foundation for the representations of those satirists and dramatists who held up the character of the English Nabob to the derision and hatred of a former generation. It is true that some disgraceful intrigues, some unjust and cruel wars, some instances of odious perfidy and avarice, stain the annals of our Eastern Empire. It is true that the duties of government and legislation were long wholly neglected or carelessly performed. It is true that when the conquerors at length began to apply themselves in earnest to the discharge of their high functions, they committed the

errors natural to rulers who were but imperfectly acquainted with the language and manners of their subjects. It is true that some plans, which were dictated by the purest and most benevolent feelings, have not been attended by the desired success. It is true that India suffers to this day from a heavy burden of taxation and from a defective system of law. It is true, I fear, that in those states which are connected with us by subsidiary alliance, all the evils of oriental despotism have too frequently shown themselves in their most loathsome and destructive form.

[But nowadays its affairs are much improved, and still improving]

[7a] All this is true. Yet in the history and in the present state of our Indian Empire I see ample reason for exultation and for a good hope.

[7b] I see that we have established order where we found confusion. I see that the petty dynasties which were generated by the corruption of the great Mahometan Empire, and which, a century ago, kept all India in constant agitation, have been quelled by one overwhelming power. I see that the predatory tribes, which, in the middle of the last century, passed annually over the harvests of India with the destructive rapidity of a hurricane, have quailed before the valour of a braver and sterner race, have been vanquished, scattered, hunted to their strongholds, and either extirpated by the English sword, or compelled to exchange the pursuits of rapine for those of industry.

[7c] I look back for many years; and I see scarcely a trace of the vices which blemished the splendid fame of the first conquerors of Bengal. I see peace studiously preserved. I see faith inviolably maintained towards feeble and dependent states. I see confidence gradually infused into the minds of suspicious neighbors. I see the horrors of war mitigated by the chivalrous and Christian spirit of Europe. I see examples of moderation and clemency, such as I should seek in vain in the annals of any other victorious and dominant nation. I see captive tyrants, whose treachery and cruelty might have excused a severe retribution, living in security, comfort, and dignity, under the protection of the government which they labored to destroy.

[7d] I see a large body of civil and military functionaries resembling in nothing but capacity and valour those adventurers who, seventy years ago, came hither, laden with wealth and infamy, to parade before our fathers the plundered treasures of Bengal and Tanjore. I reflect with pride that to the doubtful splendor which surrounds the memory of Hastings and of Clive, we can oppose the spotless glory of Elphinstone and Munro. I contemplate with reverence and delight the honorable poverty which is the evidence of rectitude firmly maintained amidst strong temptations. I rejoice to see my countrymen, after ruling millions of subjects, after commanding victorious armies, after dictating terms of peace at the gates of hostile capitals, after administering the revenues of great

provinces, after judging the causes of wealthy Zemindars, after residing at the courts of tributary Kings, return to their native land with no more than a decent competence.

Passage 2 原文 :

From Tilak' s speech on "the tenets of the New Party" (1907) by Bal Gangadhar Tilak, Indian political leader.

Introduction: Bal Gangadhar Tilak (1849-1920) was a major political leader of Maharashtra. He sided with the „Extremists “ and broke with the „Moderates “when the Indian National Congress split in December 1907. Shortly after the Calcutta Congress of December 1906 when the split was narrowly avoided he spoke in Calcutta on January 2,1907 outlining the tenets of the "Extremists" In 1908 he was sentenced to six years imprisonment for „sedition “. After his release in 1914 he became a leader of the „ Home Rule League “. His famous slogan „Swaraj (Home Rule) is my birthright – and I will have it “was often quoted by Indian nationalists.

(see also AHOI, Ch. 7, section: The partition of Bengal and the rise of extremism)

Pax Britannica has been established in this country in order that a foreign government may exploit the country. That this is the effect of Pax Britannica is gradually realized in these days. It was an unhappy circumstance that it was not realized sooner. We believed in the benevolent intentions of the Government, but in politics there is no benevolence. Benevolence is used to sugar-coat the declarations of self-interest , and we were in those days deceived by the apparent benevolent intentions under which rampant self-interest was concealed. It is said there is a revival of Liberalism, but how long will it last? Next year it might be they are out of power and are we to wait till there is another revival of Liberalism... and after all what can a Liberal Government do?..... I laughed when I read the proceedings of the meeting in Calcutta congratulating people on the appointment of Mr. Morley to the Secretaryship of State for India. Passages were read from Mr. Morley' s books.... They utterly misunderstood the position or ignored the distinction between a philosopher and a statesman.....

To convert the whole electorate of England to your opinion and then to get indirect pressure to bear upon the Members of Parliament, they in their turn to return a Cabinet favourable to India and the whole Parliament, the Liberal Party and the Cabinet to bring pressure on the bureaucracy to yield - we say this is hopeless, You can now understand the difference between the Old and the New Party.... The Old Party believes in appealing to the British nation and we do not. That being our opinion, it logically follows we must have some other method..... We have come forward with a scheme which if you accept,

shall better enable you to remedy this state of things than the scheme of the Old school. Your industries are ruined utterly, ruined by foreign rule, your wealth is going out of the country and you are reduced to the lowest level which no human being can occupy. In this state of things is there any other remedy by which you can help yourself? The remedy is not petitioning but boycott. We say prepare your forces, organise your power, and then go to work so that they cannot refuse you what you demand.

We have perceived one fact, that the whole of the administration, which is carried on by a handful of Englishmen, is carried on with your assistance. We are all in subordinate service. The whole government is carried on with our assistance and they try to keep us in ignorance of our power of co-operation between ourselves by which that which is in our own hands can be claimed by us and administered by us. The point is to have the entire control in our hands,

We shall not give them assistance to collect revenue and keep peace. We shall not assist them in fighting beyond the frontiers or outside India with Indian blood and money. We shall not assist them in carrying on the administration of justice. We shall have our own courts and when time comes we shall not pay taxes. Can you do that by your united efforts? If you can, you are free from tomorrow.

We have not raised this cry from a mere impulse... I do not ask you to blindly follow us. Think over the whole problem for yourselves. If you accept our advice, we feel sure, we can achieve our salvation thereby. This is the advice of the New Party.

【第三篇】

文章概述

作者：Claire N. Spottiswoode

題目：How Cooperation Defeats Cheats

本篇文章的主旨是紅嘴山鴉之間的合作，對於它們遭到寄生蟲入侵的影響。文章中談到，紅嘴山鴉之間的合作和寄生蟲的入侵是相互作用的。合作容易讓它們變成寄生蟲的目標，與此同時，它們之間的合作也讓他們更容易對抗寄生蟲。在文中，作者也闡明了群體大小對於感染寄生蟲幾率的影響。越小的群體，感染幾率越大，越大的群體，感染幾率越小。在文章的最後一段，作者表明研究的結果雖然能夠說明合作對於寄生物入侵的影響，但是暫時還不能揭開紅嘴山鴉最初是如何進化出合作的特性的。

題目回顧

1. 主旨題：問作者這篇研究的目的是什麼
2. 作者文章中收集的 data 有什麼樣的作用？
3. 詞彙題：reflect 在文中的意思。
4. 詞彙題：favor 在文中的意思。
5. 獨立取證題：問那句話是文中作者提到的，群體數量對寄生物影響的證據。
6. 細節題：紅嘴山鴉在繁殖中的特點
7. 目的題：最後一段的作用
8. 圖表題：問從第一個圖表能得出什麼關於群體大小和寄生的關係。
9. 圖表題：問從圖表中能得出什麼樣的比對資訊。
10. 圖表題：問從第二個圖表中能得出什麼。

文章原文

In the spring of 1879, Hermann Lau shot two white-winged choughs, *Corcorax melanorhamphos*, off their nest in Queensland, Australia. He watched as additional choughs continued to attend the nest, proving that a cooperative group shared parental care (1). Since then, cooperatively breeding birds have had a starring role in efforts to explain the evolution of complex animal societies. We now know that “helpers-at-the-nest” who forgo reproduction are often relatives of the breeding pair. Genetic payoff is, thus, one of several advantages that helpers can gain from their superficially altruistic behavior (2). On page 1506 of this issue, Feeney et al. (3) show that collective defense against brood parasites (see the figure) can enhance such benefits of cooperation. Why do some bird species cooperate and others do not? Global analyses have shown that cooperative breeding (now known from 9% of species) is associated with a slow pace of life (characterized by high survival rates and low turnover of breeding territories) (4), monogamy (which facilitates kin selection within families) (5), and unpredictable environments (such as arid zones) that might favor cooperation as a bet-hedging strategy (6). But these factors often fail to predict the incidence of cooperation among related species or within geographical regions (7). Feeney et al.’ s study is built on the premise that brood parasitism—reproductive cheating by species such as cuckoos and cowbirds, which exploit other birds to raise their young—is a severe selection pressure on their hosts’ breeding strategies. Parasitized parents typically not only lose their current offspring but also waste a whole breeding season raising a demanding impostor. The best way to avoid parasitism is to repel adult parasites from the nest. Feeney et al. show that sociality can be pivotal to this process. The authors begin by unfolding a new map. Using data compiled by Bird Life International, they show

that the global distribution of cooperatively breeding birds overlaps strikingly with that of brood parasites. This overlap need not reflect a causal relationship:

The same unpredictable environments that favor cooperation could also favor alternative breeding strategies such as parasitism. However, the authors go on to show that even within geographical regions rich in both parasites and cooperators—Australia and southern Africa—cooperative breeders are much more likely than noncooperative species to be targeted by brood parasites.

To determine the reasons for this correlation, Feeney et al. studied cooperative breeding in superb fairy-wren (*Malurus cyaneus*) in Australia. Horsfield's brood-cuckoos (*Chalcites basalis*) should benefit from targeting larger groups of fairy-wrens because more helpers mean faster chick growth. Yet data from a 6-year field study show that in practice, cuckoos rarely experience this advantage, because larger groups of fairy-wrens much more effectively detect and repel egg-laying intrusions by cuckoo females, mobilizing group defenses with a cuckoo-specific alarm call. Thus, cooperation and parasitism could reciprocally influence one another: Cooperators might be more attractive target because they make better foster parents, but once exploited by parasites, they are also better able to fight back, helping cooperation to persist. (8) Feeney et al. find that superior anti-cuckoo defenses in larger groups account for 0.2 more young fledged per season on average than smaller groups--a substantial boost given the fairy-wrens' low annual fecundity.

These results show convincingly that defense against brood parasites augments the benefits of helping, promoting the persistence of cooperation. But as the authors note, they cannot reveal what caused cooperation to evolve initially. Brood parasitism alone cannot resolve the question of why some birds breed cooperatively. For example, cooperative kingfishers and bee-eaters are heavily parasitized in Africa but not in Australasia, showing that other advantages of helping behavior are sufficient for cooperation to persist. But we should take parasitism seriously as an important force in a cooperative life. Indeed, it may provide a mechanism contributing to the previously discovered global correlates of cooperation.(4-6)

Some insight into the likely order of evolution might come from further comparative predictions. For instance, if cooperation arose first as a defense against parasitism, cooperators may be most prevalent among hosts that rely heavily on repelling adult parasites, rather than on antiparasite strategies at later reproductive stages, such as egg or chick discrimination (9). In contrast, if parasites target existing cooperators because they provide superior care, this should be especially true of parasites whose chicks have

the most pressing needs—for instance, those in parasitic families with large body size relative to their hosts or those whose chicks do not kill host young and therefore must share their foster parents' care. Could there be a similar association between cooperation and parasitism among other highly social animals? Cooperation in mammals clearly persists irrespective of parasitism, given that there are no known brood-parasitic mammals (perhaps because it would be difficult for a mammal to insert live young into another's care). But repelling parasitic egg-laying intrusions is crucial to many hosts of socially parasitic insects and has shaped sophisticated adaptations and counter defenses for and against brute force and secrecy (10). It will be fascinating to explore how selection for antiparasitic defense has interacted with monogamy and defensible resources as forces favoring kin-selected cooperation in invertebrates, touching on an active debate in evolutionary biology. Answers to such comparative questions will ultimately be limited by our knowledge of natural history. The work by Feeney et al. is testament to the evolutionary insights enabled by careful long-term field studies, together with the cumulative legacy of those naturalists who made the unglamorous effort to record and publish observations of real animals in real places.

【第四篇】

文章概述

文章討論了人們對於工作截止日期的思維意識，先給出了人們做事情的四個階段，而通常人們開始工作並意識到截止日期，必須是要將任務與現在聯繫起來的時候，隨後利用到某大學研究團隊的實驗進一步闡釋，第一個實驗研究發現同年存款為截止日期比下一年存款為截止日期，更容易使人們開始開戶的行為。同樣第二個實驗驗證當截止日期和工作時間有類似特徵的時候，不容易喚醒大家開始工作的意識。隨後文章給了一個關於 deadline 的實驗對比圖表。

題目回顧

1. 文章主旨題
2. 資訊題：問在開始工作前人們最關注 concern 什麼
3. 循證題：對應前一題
4. 詞彙題：問 drive 的意思
5. 資訊題：問任務也很有可能被和當下聯繫起來即便在遙遠的將來
6. 循證題：對應前一題
7. 推斷題：作者提及日期的 arbitrary 是為了暗示什麼
8. 目的題：最後一段的作用是什麼

9. 圖表題：問哪一個值接近人們對於 deadline 的平均速率

10. 圖表題：問圖表與文章第一個存款實驗的區別

文章原文

If you want something done, the saying goes, give it to a busy person. It is an odd way to guarantee hitting deadlines. But a paper recently published in the Journal of Consumer Research suggests it may, in fact, be true—as long as the busy person conceptualizes the deadline in the right way.

Yanping Tu of the University of Chicago and Dilip Soman of the University of Toronto examined how individuals go about both thinking about and completing tasks. Previous studies have shown that such activity progresses through four distinct phases: pre-decision, post-decision (but pre-action), action and review. It is thought that what motivates the shift from the decision-making stages to the doing-something stage is a change in mindset.

Human beings are a deliberative sort, weighing the pros and cons of future actions and remaining open to other ideas and influences. However, once a decision is taken, the mind becomes more "implemental" and focuses on the task at hand. "The mindset towards 'where can I get a sandwich' ," explains Ms Tu, "is more implemental than the mindset towards 'should I get a sandwich or not?' "

Ms Tu and Dr Soman advise in their paper that "the key step in getting things done is to get started." But what drives that? They believe the key that unlocks the implemental mode lies in how people categorize time. They suggest that tasks are more likely to be viewed with an implemental mindset if an imposed deadline is cognitively linked to "now"—a so-called like-the-present scenario. That might be a future date within the same month or calendar year, or pegged to an event with a familiar spot in the mind's timeline (being given task at Christmas, say, with a deadline of Easter). Conversely, they suggest, a deadline placed outside such mental constructs (being "unlike-the-present") exists merely as a circle on a calendar, and as such is more likely to be considered deliberatively and then ignored until the last minute.

To flesh out this idea, the pair carried out five sets of tests, with volunteers ranging from farmers in India to undergraduate students in Toronto. In one test, the farmers were offered a financial incentive to open a bank account and make a deposit within six months. The researchers predicted those approached in June would consider a deadline

before December 31st as like-the-present. Those approached in July, by contrast, received a deadline into the next year, and were expected to think of their deadline as unlike-the-present. The distinction worked. Those with a deadline in the same year were nearly four times more likely to open the account immediately as those for whom the deadline lay in the following year. Arbitrary though calendars may be in dividing up time's continuous flow, they influence the way humans think about time.

The effect can manifest itself in even subtler ways. In another set of experiments, undergraduate students were given a calendar on a Wednesday and were asked to suggest an appropriate day to carry out certain tasks before the following Sunday. The trick was that some were given a calendar with all of the weekday colored purple, with weekends in beige (making a visual distinction between a Wednesday and the following Sunday). Others were given a calendar in which every other week, Monday to Sunday, was a solid color (meaning that a Wednesday and the following Sunday were thus in the same week, and in the same color). Even this minor visual cue affected how like- or unlike-the-present the respondents tended to view task priorities.

These and other bits of framing and trickery in the research support the same thesis: that making people link a future event to today triggers an implemental response, regardless of how far in the future the deadline actually lies. If the journey of 1,000 miles starts with a single step, the authors might suggest that you take that step before this time next week.

【第五篇】

文章概述

題目：Ancient magma plumbing found buried below moon's largest dark point

作者：Eric Hand

2014 American Association for Advanced Science

文章內容

月球最大的圓形暗點 oceanus procellarum 下面找到了長方形的地貌，有冷卻的岩漿等痕跡，很像地球的裂谷 rift valley，證明月球很久以前也是有地址和岩漿活動的。OP 這個暗點原來認為是隕石撞擊造成的盆地，但是長方形地貌的發現反駁了這個 idea，因為盆地不可能有棱角。

NASA 發射了一對飛船 GRAIL 可以採集地貌細微的變化以及分析密度，提供了資訊給 Hannah Andrews 這個科學家和她的團隊。

OP 這個暗點地區有大量的輻射粒子，可以釋放大量的熱量。在冷卻之後，地殼會開裂，地幔中的岩漿會溢出來，然後慢慢的形成了暗點，多出來的岩漿冷卻後加大了該地區的重量，導致下沉形成盆地狀的地貌。

宇宙中有很多相似的情況，作者距離了一些，比如土星的衛星。最後另一個科學家表揚了 Hannah 團隊的貢獻，但是仍舊問題沒解決，比如為什麼卻只有進地球的一側出現了 OP 和長方形地貌，而月球其他的地方雖然有相似的條件卻沒有這種地貌。

題目回顧

1. 全文的主要目的是什麼？選擇月球上新的發現質疑之前的假設理論
2. 為什麼作者說發現新的長方形地貌的時候，還要提及 geologic plumbing system？是為了進一步說明該地域的地址形態
3. Hannah 是如何評價之前的隕石撞擊導致盆地理論的
4. NASA 飛船 GRAIL 給 Hannah 團隊提供了什麼樣的幫助
5. GRAIL 提供的資訊和什麼有關
6. Hannah 對於資訊後的分析如何評價
7. 循證題
8. 結合以上內容，Dark Spot 到底應該是如何形成的
9. 為什麼一開始認定 OP 是隕石衝擊形成的
10. 循證題
11. 作者為什麼給出宇宙中一些其他天體的例子，比如土星的衛星。

文章原文

Ancient magma plumbing found buried below moon's largest dark spot

By Eric Hand Oct. 1, 2014, 1:00 PM

Scientists have found a nearly square peg underneath a round hole—on the moon. Several kilometers below Oceanus Procellarum, the largest dark spot on the moon's near side, scientists have discovered a giant rectangle thought to be the remnants of a geological plumbing system that spilled lava across the moon about 3.5 billion years ago. The features are similar to rift valleys on Earth—regions where the crust is cooling, contracting, and ripping apart. Their existence shows that the moon, early in its history, experienced tectonic and volcanic activity normally associated with much bigger planets.

"We're realizing that the early moon was a much more dynamic place than we thought," says Jeffrey Andrews-Hanna, a planetary scientist at the Colorado School of Mines in Golden and lead author of a new study of the Procellarum's geology. The discovery also casts doubt on the decades-old theory that the circular Procellarum region is a basin, or giant crater, created when a large asteroid slammed into the moon.

"We don't expect a basin rim to have corners," Andrews-Hanna says.

The work is based on data gathered by GRAIL (Gravity Recovery and Interior Laboratory), a pair of NASA spacecraft that orbited the moon in 2012. Sensitive to tiny variations in the gravitational tug of the moon, GRAIL mapped density variations below the surface (because regions of higher density produces slightly higher gravitational forces). Below known impact basins, GRAIL found the expected ring like patterns, but underneath the Procellarum region, the mysterious rectangle emerged. "It was a striking pattern that demanded an explanation," Andrews-Hanna says.

Scientists already know that the Procellarum region is rich in radioactive elements that billions of years ago would have produced excess heat. The study team theorizes that as this region cooled, the rock would have cracked in geometrical patterns, like honeycomb patterns seen on Earth in basalt formations, but on a much larger scale. In a study published today in *Nature*, the researchers propose that these cracks eventually grew into rift valleys, where magma from the moon's mantle welled up and pushed apart blocks of crust. Lava spilled out and paved over the Oceanus Procellarum, creating the dark spot that is seen today. The extra weight of this dense material would have caused the whole region to sink slightly and form the topographic low that has made the Procellarum seem like a basin.

With the discovery, the moon joins Earth, Mars, and Venus as solar system bodies with mapped examples of rifting. There are also similar features near the south pole of Enceladus, the moon of Saturn that is spewing water into space from cracks in an ice shell.

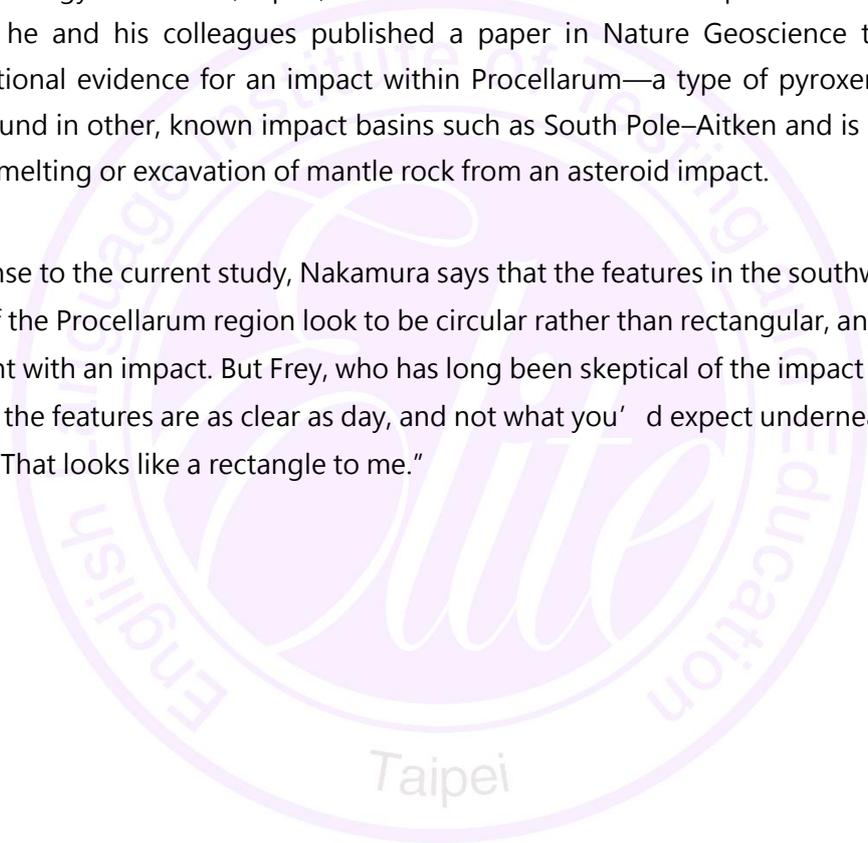
Andrews-Hanna and colleagues have made a good case, says Herbert Frey, a planetary scientist at NASA's Goddard Space Flight Center in Greenbelt, Maryland, even though the newly described features are surprising. The moon is not big enough to have the same strong convective cooling process that Earth has in its interior, he explains, and ordinarily convection is one of the main mechanisms thought to lead to large-scale rifting. So just what caused the rifting remains unclear. "It just means the moon continues to surprise us," he says. Frey adds that a remaining mystery is why the rectangular features were found only beneath Oceanus Procellarum. Even if the rifting is

explained by the excess radioactive elements, there is still no definitive explanation for why only the near side of the moon ended up enriched.

The discovery could also be a death knell for the impact theory for Oceanus Procellarum, an idea first put forth in the early 1970s. A basin there would have been the largest on the moon—larger than the South Pole–Aitken Basin—and second in the solar system only to the Borealis Basin on Mars, which covers the planet’s entire northern hemisphere.

Ryosuke Nakamura, a researcher at the National Institute of Advanced Industrial Science and Technology in Tsukuba, Japan, is still not convinced that an impact can be ruled out. In 2012, he and his colleagues published a paper in *Nature Geoscience* that found compositional evidence for an impact within Procellarum—a type of pyroxene mineral that is found in other, known impact basins such as South Pole–Aitken and is associated with the melting or excavation of mantle rock from an asteroid impact.

In response to the current study, Nakamura says that the features in the southwestern corner of the Procellarum region look to be circular rather than rectangular, and still consistent with an impact. But Frey, who has long been skeptical of the impact theory, says that the features are as clear as day, and not what you’d expect underneath a basin. “That looks like a rectangle to me.”



Section 2 : 寫作與文法修辭測驗

【第一篇】

文章概述

Vik Muniz' s Extraordinary Ordinary Art

第一段：Vik 到 Caribbean Island 旅行，認識了當地的小孩，看到了他們勤勞的父母，認為應當重視他們辛勤的勞動成果；

第二段：Vik 用特殊的材料 sugar，製作了一個 portrait 即 Sugar Children；他的作品在紐約現代博物館展覽，自 Vik' s career as a photographer takes off；

第三段：Vik 又重新創作了一些著名的畫作，其中包括達文西的 Last Supper；

第四段：Vik 作品的意義，讓人們重新認識一些 artwork 並瞭解 the world around them

題目回顧

1. 句子結構：fragment 缺主句類型。while 句式標點考查；
2. 名詞單複數：只要細心就能做對。parents 和 labors 數的對應；
3. 第二段段落首句：哪一個句子 introduce 的接下來的資訊，需要進行一些總結歸納；
4. 平行結構：and 並列句式中動詞形式的選擇，只要定位平行關鍵字和平行的動詞基本不會有問題；
5. 代詞：需要理解原文，看此處邏輯語義。指示前半句 sugar 應該選用的物主代詞；
6. 插入語標點：需要分析句子結構，通讀原句整句話。in its 1917 前後的標點；
7. 句子插入題：第三段段首是否應插入句子及其原因；
8. 考查邏輯連接：第三段第一句話和第二句話應該如何連接，原文連接詞是 in contrast；
9. 詞彙意思重複：famous 和 well-known 意思重複；
10. sentence combination：主語相同的兩個句子的合併；
11. 段落首句選擇：考查對最後一段段落大意判斷並選出段落首句；

【第二篇】

文章概述

第一段：社區在投資藝術專案的時候，其實也會考慮藝術對人們生活品質的提高；而藝術其實反過來能促進經濟；

第二段：在社區內藝術機構是消費者，購買物資；同時也是雇主，創造就業機會；

第三段：舉辦藝術節等可以促進當地經濟，當地人和旅客都會帶動經濟；

第四段：因為藝術有以上好處，所以社區更應該資助藝術項目。

題目回顧

1. 選擇合適的代詞，考點比較常規，主要是需要回到原文讀語義，應該對應的是 communities
2. 尋找段中的過渡句，上面寫的是社區認為對藝術的資助其實是一種投資，後文講的是這種投資會帶來回報。關鍵字 investment 聯繫了上下文。
3. 考察名詞單複數和' s 的應用，考點難度正常。只要細心就能做對。
4. 詞彙題：style and tone：pitch in / fully and totally involved / play a role /
5. 邏輯詞：however / furthermore / for instance / in other words
6. 句子結構：很多學生的易錯點：run-on 兩個完整句子不能用逗號隔開。all of which 的用法。
7. 固定搭配：be likely to 難度不大。
8. 圖表題：迷惑性比較大，圖表資料比較簡單，但是有迷惑性。需要結合圖表下面的描述。
9. 結合圖表題的語義題：問哪個選項能更好的支撐藝術機構對當地經濟的促進。
10. 並列結構和主動一致：spending 是句子主語，support 是其中一個謂語和 contribute 並列
11. 合併句子題：考點簡單，選擇最簡潔的就可以了。

【第三篇】

文章概述

本篇文法的內容和醫療領域裡的 primary care 有關。作者提到 primary care 的專家不足，是醫療領域裡很嚴重的一個問題，但藥物學家可以很好的作為一個補充。除了在傳統領域為人們和醫療事業做出貢獻，藥物學家還可以跨界，進行一些 primary care 領域的工作。作者在文中舉出了一些事實來表明藥物學家可以做到的事情，在文章尾段，談到了法律上對於藥物學家對 primary care 領域提供幫助的制約，並且呼籲人們讓藥物學家更多地參與到 primary care 領域來。文章的難度不是很高，修辭部分題目理解起來相對容易。

題目回顧

1. 邏輯連接題：題目的出題位置為遞進強調的邏輯，所以選擇 to make matters worse.
2. 修辭類主旨題：題目出題位置是藥物學家能做到的事情。題目的要求是讓學生貼合主旨作答，所以此題應該做完整篇文章後再最後解決。答案為藥物學家能很好地補充 primary care 領域的缺失。
3. 修辭題：題目要求再給出一個理由，表明藥物學家能提供的好處。前面的理由是可以節省患者的金錢成本，選擇可以讓患者節約時間，不用走多餘的路程。
4. 詞彙題：empower
5. 從子句中 that 的省略。原句中的句子是 task traditionally performed by.....task 後的 that 省略。
6. 插入題：選項中考察學生對於逗號和破折號構成插入語的形式。選擇用逗號構成。
7. 時態題：考查學生對於時態一致性的理解，需要結合上下文的時態作答。
8. 代詞題：考查學生對於代詞指代是否明晰的掌握。
9. 句子銜接：考查學生對於句子連接的掌握，和冒號及分號的使用方法。考察點是兩個完整的句子，且後句不對前句構成解釋說明。應該用分號連接。
10. 主旨題：需要扣住藥物學家的重要作用。
11. 簡潔原則：選擇 innovative way。

原文出處：<http://science.sciencemag.org/content/342/6165/1452>

【第四篇】

文章概述

科學家一直對地球上海洋的形成存有疑問。由於在地球早期，地表溫度太高，不可能有水存在，以往的觀點認為地球上的海洋是由於結冰的彗星與地球碰撞後將水帶到了地球。但近年來隨著 R 物質的發現，科學家形成了新的觀點——地球上的一部分水可能來自地球內部。

R 物質由很多 transition zones 組成，transition zones 是由上下層地幔相遇而形成的。地幔中有 1.5% 的礦物質含有水。即使早年地表溫度很高，地幔中礦物質所含有的水也可以形成地球上所有的海洋。科學家認為 transition zones 是 water reservoir，這個發現說明地球上的水很有可能來自於地球內部。

題目回顧

1. 標點符號：副詞子句標點符號 wonder how 後面標點用句號。
2. 例子支撐題：哪個選項可以支援 icy comet 與地球碰撞形成海洋。原文前一句論點清晰
3. 主詞補語單複數一致，難度比較小。discoveries have...
4. 插入語標點符號：需要通讀句子，分析清楚句子結構：at high temperatures and pressures 後面符號
5. 哪個選項可以總結第二段。第二段主要講 R 這個物質的發現可以支持地球上的水來自內部。
6. 過渡句，引出後文。後文大意較好總結：即 R 含有較多的水。
7. 考察句子結構和句間邏輯，涉及 fragment, sentence, so, therefore, while
8. 冗餘。high temperature 和 heat 重複
9. 句子結構考察：兩個句子連接，只能有一個連詞。although 和 but 不能連用
10. 詞彙題：undergo process
11. 總結句：題目資訊很具體，只要回去讀第一段，基本能抓住意思。哪句引文可以支持第一段提出的觀點。地球海洋中的水可能來自地球內部。

Section 3 & 4 : 數學測驗

這次數學考試難度偏低，一次函數、二次函數、指數函數和方程組解的個數等基礎知識點，仍然佔據著最大篇幅。

統計部分一直都是 SAT 的一大難點，然後此次考試並沒有對因果關係的確立和 confidence level 等與 AP 統計擦邊的知識點進行考察，重點放在了 mean 和 median 的計算，以及散點圖的理解上。

應用題考察較全面，汽油問題考察從路程計算汽油，壓強問題考察了從壓強計算壓力，總而言之，SAT 數學越來越**強調應用數學知識解決實際問題的能力**。

非計算機部分

1. 方程組解的個數。 $3x+5y=5; cx+10y=12$ 沒有解，問 c 的值。
2. 指數函數。 $y=540000(20/21)^{20t}$ ，其中 t 代表分鐘，y 代表 fuel，問 20/21 代表什麼。
3. $x-4=(x+2)^{0.5}$ ，求 x
4. 一次函數過 $(5, 0)$ ， $(0, 10)$ 求對應的直線方程。
5. 二次函數交點式是 $y=(x-a)(x-b)$ ，問 $(a+b)/2$ 代表了什麼。

計算機部分

1. 選擇某小學二年級男生作為樣本，統計結果也只能推廣到該小學二年級男生。
2. 三角形兩條邊為 7 和 13，13 是最長的邊，問另一條邊是多少。
3. $p=7c-40$ ，p 代表 profits, c 代表 carving stones 數目，問 7 代表什麼含義。
4. 汽油問題。一輛車 40miles per hour, 25miles per gallon. 問這輛車開了 75 分鐘需要用多少汽油。
5. 壓強問題。單位面積大氣壓是 14.7，問 30 個單位面積下壓力為多少。這道題沒有給出壓力和壓強的數學關係，對物理關係不熟悉的同學要根據單位判斷壓力和壓強的數學關係。
6. 因式定理。多項式與 x 軸交點為 -2，1，0，3，問下面哪個是多項式的 factor.
7. 二次函數常數項的含義。
8. 散點圖：對於橫坐標為 median 的點，其縱坐標是多少。
9. 如果想刻畫不同數目的班級占總班級數的比例，要用什麼圖表。graph plot.
10. 去掉 outlier 會怎麼影響均值和 median.

選考：論文寫作

這篇文章最初發表在 2013 年 10 月的《華盛頓郵報》。題材上來說，與 OG 6 那篇 Lovely Stones 有些相似，但論述方式比較簡單。

這篇文章可謂“飽醜情感” “emotionally-charged”，考生不妨沿著“情感線”去論述作者是怎樣組織材料，一步步證明問題的嚴重性，同時贏得讀者支持的。

1. Egypt' s future lies in its history, particularly its archaeological history. For hundreds of years the mystery and wonders of the pyramids, the sphinx and the Valley of the Kings have attracted visitors from around the world. Tourism is the lifeblood of Egypt' s economy and touches the lives of most Egyptians, whether they work as tour guides, restaurant owners, craftsmen or bus operators. Egypt' s history holds the prosperity of the country' s future generations, including that of youths — more than 40 million Egyptians are age 30 or younger — who are seeking opportunities.

首先作者直白地告訴了讀者歷史文物對埃及的重要意義——涉及民生的旅遊業。作者這樣寫就能引起讀者對這個話題的重視，同時對埃及經濟的同情。

The author explicitly point out the importance of archaeological history not only to the preservation of history for the entire humanity but also a more practical reason---the archaeological history is “lifeblood” of Egypt' s economy

關鍵字：raise awareness, establish the importance of archaeological history to Egypt' s economy.

2. But thieves are raiding our archaeological sites and selling their findings to the highest bidders. They are taking advantage of Egypt' s security situation to loot our nation' s economic future and steal from our children.

然後作者告訴了我們一個讓人心痛的事實，那就是文物盜竊及拍賣猖獗，直接影響到了埃及的民生

The author tells us a heartbreaking fact, antiquity theft of Egypt' s national treasures and illegal auction.

關鍵字：thieves, loot, steal from our children

Word choice, such as thieves, loot, and steal from our children appeals to readers' sense of indignation and their sympathy to help protect these archaeological sites and findings.

第一段和第二段作者引出了話題，同時為全文打下了基礎 lay a strong foundation for further argument. 接下來作者開始論述

3. Egyptians need the people and the government of the United States to support our efforts to combat the systematic and organized looting of our museums and archaeological sites. Imagine a world in which the stories of King Tut, Cleopatra, Ramesses and others were absent from the collective consciousness. And with much of our history still waiting to be discovered under the sand, the potential losses are staggering. Antiquities theft is one of the world's top crimes — after the trafficking of weapons, narcotics and people — but it is seldom addressed.

作者向美國政府和人民尋求幫助，希望得到美國的支持，打擊文物盜竊及非法拍賣。作者運用了大量文物，告訴我們這些文物對世界文化的重要性，從而引起我們對文物盜竊現象的痛恨。

關鍵字: Egyptians need...support, thus appealing to readers' sense of duty to help Egypt in the fight against rampant antiquity theft.

Imagine a world (a number of well-known examples of cultural and historical relics) are absent. The author plead the readers to think about the importance of those world-renowned cultural and historical treasures, in contrast to the fact of rampant theft and looting. The author intends to raise readers' awareness towards the gravity of the problem which is often overlooked by global community.

4 Egyptian antiquities are flooding international markets. Recent auctions at Christie's in London and New York included several items from Egypt. Fortunately, when contacted, Christie's in London withdrew a number of items that had been stolen from the tomb of King Amenhotep III, discovered in 2000 in Luxor. Among the items was a steatite bust of an official dating from 1793 to 1976 B.C.

這一段作者是在引用典型例子，證明 antiquity theft and illegal auction 是多麼猖獗，而這些都是在 NYC 和 London 這樣的地方發生的，拍賣行是 Christie's 這樣的知名公司，讀了讓人覺得非常氣憤。後半段作者在談論這些文物的重要性。

關鍵字： flood international markets, include at Christie' s London and New York auctions.

5. Although arrests were made in this case, and two auction houses in Jerusalem canceled the sale of 126 antiquities after being contacted by Egyptian officials, the tide unfortunately flows in the other direction. After being contacted by the Egyptian foreign ministry, other auction houses have been unwilling to cooperate with requests to delay or cancel sales of items that experts assess have been stolen. Among those who make their money selling antiquities, cooperation with the Egyptian government has been mixed at best.

這一段承認了在打擊文物盜竊方面的成就，大公司 Christie 's 終止了拍賣，但同時，作者再次指出，更多的拍賣行知法犯法，讓讀者聽了更加的生氣。

關鍵字： other auction houses have been unwilling to cooperate.
Cooperation...has been mixed at best.

The author intends to exacerbate/escalate the anger among the readers toward auction houses who deliberately ignore Egyptian government' s requests, thus appealing to their sense of righteousness not to boycott the auction houses that sell Egyptian cultural relics.

6. Looting is a centuries-old business and a crime that Egyptians will no doubt be fighting for years, especially during difficult economic times. Our country is willing to take a strong stand. No one can forget the stark images of Egyptians — men and women, Muslims and Christians, young and old — creating a human shield to protect the Egyptian Museum in Cairo during the 2011 revolution. Still, thieves succeeded in stealing several items from its collection. Despite our government' s best efforts to retrieve those artifacts, more than 50 items, including some from the famous King Tut tomb, remain missing.

這一段在論述埃及在打擊文物盜竊一貫的努力，強調整個國家、無論男女老幼、不同種族和信仰都達成了一致，但就如“沒有買賣，就沒有殺戮”，作者在論述根本原因“root cause”是買方市場，這位文章後面的呼籲做鋪墊。

關鍵字：Looting is a centuries-old business. Our country ...strong stand, human shield to protect. (in contrast) thieves succeeded in stealing.

7. In the Aug. 14 attack on the Malawi National Museum, in Minya, more than 1,000 items were taken: statues more than 3,500 years old; jewelry from the time of the ancient Pharaohs; Greco-Roman gold coins. When security forces tried to stop them, the thieves burned some items they could not take, including mummies.

更多例子來證明自己的觀點，文物盜竊還是很猖獗。

8. Every day, Egyptians risk their lives to prevent organized gangs from stealing our heritage. Our country is not the only place under attack: Iraq, Syria, Libya, Peru and Guatemala are suffering similar assaults on their heritage. Halting these crimes on our civilization will require a coordinated global effort — from both the “producers” and the “consumers.”

更多的國家都在打擊文物盜竊，這樣就把這個問題放在全球視野內，Iraq, Syria, Libya 等都是典型例子，這裡可以評價文物盜竊是世界性的問題，同時，這些國家和埃及都一樣，都屬於發展中國家，有些面臨戰亂的困擾，這樣就更需要發達國家的民眾抵制這些無良商家。

關鍵字：Our country is not the only place under attack. Halting these crimes...require a coordinated global effort.

The author claims that looting of antiquity is a global problem. To back up his claim, he quote countries such as Iraq, Syria, Libya etc. as examples to back up his claim. As these countries, more or less, share similarities with Egypt—all are developing countries, some are suffering from wars, these once again appeals to readers' sense of duty to boycott such auction deals in auction houses.

9. It is our common duty, in Egypt and around the world, to defend our shared heritage. International institutions, governments, business, archaeologists and other experts must come together to explore how to help countries in need protect their treasures. The efforts of groups such as the International Coalition to Protect Egyptian Antiquities are appreciated — but much more aid is necessary. The youths of Egypt deserve more. There is no time to waste.



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作者最後呼籲了這是我們共同的責任，來保護這些文物，希望大家支援國際組織在打擊文物盜竊的努力，同時強調了問題的緊迫。

Toward the end of the article, the author once again appeals to readers' duty in the fight against antiquity theft, call for their support for international organizations. The author also point out that this is an urgent task.

