

Maturitätsprüfungen 2025 – Englisch schriftlich

Klassen: 4A, 4Ba, 4Bb, 4Be, 4GLW, 4IM, 4SI, 4W, 4We, 4WZ, 5KSW

Lehrpersonen: Yannick Biedermann, Angela Chiappini Fitzgerald, Martin Dambach, Jessica Dyer, Simon Furnivall, Astrid Keiser, Hannah McLaren, Helen Stone

Prüfungsdauer: 4 Stunden

Erlaubte Hilfsmittel: Teil 1-3: keine; Teil 4 (Essay): ein- und/oder zweisprachiges Wörterbuch nach Abgabe der Teile 1-3)

Name: _____

Total points Part I: Reading Comprehension

21

Total points Part II: Vocabulary

25

Total points Part III: Grammar

26

Total points Parts I-III

72

Mark 1
Parts I-III
(Weighting: 50%)

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Mark 2
Parts IV (Essay)
(Weighting: 50%)

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Final Mark

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(Rounding: Mark 1 & 2 = $\frac{1}{4}$ marks; Final Mark = $\frac{1}{2}$ marks)

Part I: Reading Comprehension

Read the following text and do the tasks below (see p. 6 onwards).

‘In Britain, we are still astonishingly ignorant’: the hidden story of how ancient India shaped the west

The flow of knowledge to Europe on maths, astronomy and much more has gone unacknowledged by historians.

In AD 628, an Indian sage living on a mountain in Rajasthan made one of the world’s most important mathematical discoveries. The great mathematician

5 Brahmagupta (598–670) explored Indian philosophical ideas about nothingness and the void, and came up with the treatise¹ that more or less invented – and certainly defined – the concept of zero.

10 Brahmagupta was born near the Rajasthan hill station of Mount Abu. When he was 30 years old, he wrote a 25-chapter treatise on mathematics that was immediately recognised as a work of extraordinary subtlety and genius.

He was the first mathematician to treat the circular zero symbol – originally just a dot – as a

15 number just like the others, rather than merely as an absence, and this meant developing rules for doing arithmetic using this additional symbol along with the other nine.

These basic rules of mathematics for the first time allowed any number up to infinity to be expressed with just 10 distinct symbols: the nine Indian number symbols devised by earlier generations of Indian mathematicians, plus zero. These rules are still taught in classrooms around

20 the world today.

Brahmagupta also wrote down in Sanskrit verse a set of arithmetic rules for handling positive and negative numbers, another of his innovations. In other writings, he seems to have been the first to describe gravity as an attractive force a full

25 millennium before Isaac Newton.

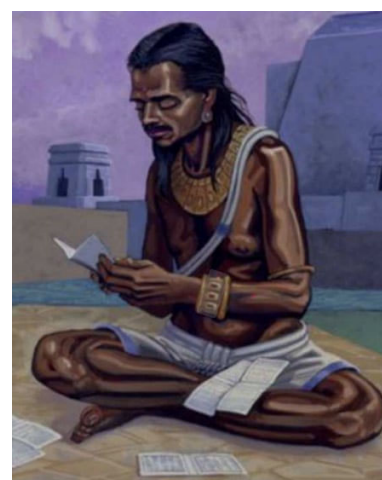
But Brahmagupta was not alone, and he viewed himself as standing on the shoulders of an earlier Indian genius, Aryabhata (476–550). The latter’s work contains a very close approximation of the value of pi – 3.1416 – and deals in detail

30 with spherical trigonometry. The ease of making calculations using his system had direct implications for astronomy and allowed him to calculate the movements of the planet, eclipses, the size of the Earth and, astonishingly, the exact length of the solar year to an accuracy of seven decimal places.

35 He also correctly proposed a spherical Earth that rotated on its own axis. “By the grace of



A painting of the Indian astronomer Aryabhata (476-550), who calculated the exact length of the solar year to an accuracy of seven decimal points (Photograph: Dinodia Photos/Alamy)



The Indian mathematician Brahmagupta (598–670) is said to have defined the concept of zero.

¹ a written work dealing formally and systematically with a subject

Brahma,” he wrote, “I dived deep in the ocean of theories, true and false, and rescued the precious sunken jewel of true knowledge by the means of the boat of my own intellect.”²

The ideas of these two men, bringing together the mathematical learning of ancient India, travelled first to the Arab world, then far to the west, giving us not only crucial mathematical
40 concepts such as zero, but the very form of the numbers we use today. In Britain, our education still gives us the impression that most of the great scientific advances of antiquity were the product of the brilliance of ancient Greece. We learn about Pythagoras and Archimedes at primary school, but mathematicians of equal stature of Indian background are still completely unfamiliar to most of us, and neither Brahmagupta nor Aryabhata are names that will ring any bells at all in this
45 country beyond a tiny group of academics.

It was they who perfected the numeral system in use around the world, arguably the nearest thing the human race has to a universal language; yet in the west, we attribute our numerals to the Arabs from whom we borrowed them, not the Indians who actually invented them.

In Britain, we are still quite astonishingly ignorant about India’s often forgotten position as an
50 economic fulcrum³, and civilisational engine at the heart of the ancient and early medieval worlds.

Although we in the west are almost entirely unaware of it, Indian learning, religious insights and ideas are among the crucial foundations of our world. Like ancient Greece, ancient India came up with a set of profound answers to the big questions about what the world is, how it operates, why we are here and how we should live our lives.

55 What Greece was first to Rome, then to the rest of the Mediterranean and European world, so at this period India was to south-east and central Asia and even to China, radiating out and diffusing its philosophies, political ideas and architectural forms over an entire region, not by conquest but instead by sheer cultural appeal and sophistication.

For a millennium and a half, from about 250BC to 1200, India was a confident exporter of its
60 own diverse civilisation, creating around it an empire of ideas that developed into a tangible “Indosphere”, where its cultural influence was predominant.

During this period, the rest of Asia was the willing and even eager recipient of a startlingly comprehensive mass transfer of Indian soft power – in religion, art, music, dance, technology, astronomy, mathematics, medicine, language and literature.

65 Out of India came not just pioneering merchants, astronomers and astrologers, scientists and mathematicians, doctors and sculptors, but also the holy men, monks and missionaries of several distinct strands of Indic religious thought and devotion, Hindu and Buddhist.

These different religious worlds sometimes mingled and melded, sometimes competed; occasionally, they clashed. But between them they came to dominate south, central, south-east and
70 eastern Asia. More than half the world’s population today lives in areas where Indian ideas of religion and culture are, or once were, dominant, and where Indian gods ruled the imaginations of men and women.

This entire spectrum of early Indian influence has always been there, hiding in plain sight: in the Buddhism of Sri Lanka, Tibet, China, Korea and Japan; in the place names of Burma and
75 Thailand; in the murals and sculptures of the *Ramayana* and the *Mahabharata* in Laos and Cambodia; and in the Hindu temples of Bali.

² a quote from Aryabhata’s major work, written in verse: the *Aryabhatiya*

³ a major change in direction which has a very important effect on things

Name: _____

Yet somehow the Golden Road of monsoon-blown maritime trade routes linking all this into a single cultural unit – a vast Indosphere stretching all the way from the Red Sea to the Pacific – has never been recognised as the link connecting all these different places and ideas to each other;
80 and never been given a name.

If India's transformative effect on the religions and civilisations around it was so central to world history, why is the extraordinary diffusion of its influence not
85 better and more widely known?

This is surely a lingering legacy of colonialism and more specifically Victorian Indology, which undermined, misrepresented and devalued Indian
90 history, culture, science and knowledge from the period when Thomas Babington Macaulay confidently proclaimed that "a single shelf of a good European library was worth the whole native literature of India and Arabia".

95 If India were acknowledged to already have been a powerful, cosmopolitan and profoundly sophisticated civilisation, then what justification would there be for Victorian Britain's civilising mission?

How would you set out to bring civilisation to a part of the world that you recognised has been supremely civilised for thousands of years and which indeed was spreading its influence all over
100 Asia long before the coming of Christianity? The irony was that it was Indian ideas that in many ways allowed the west to move eastward and subjugate India.

The numerals invented in India were adopted by the Arabs by the 8th century, thanks to a dynasty of viziers⁴ of Baghdad, the Barmakids, who were Sanskrit-literate converts from Buddhism, some of whose members had studied Indian mathematics in Kashmir.

105 It was the Barmakids who sent missions to India in search of Indian scientific texts, resulting in a mission from Sindh that brought a compilation of the works of Brahmagupta and Aryabhata to Baghdad in 773.

A generation later, all the Sanskrit mathematical texts stored in the House of Wisdom library in Baghdad were brilliantly summarised by the Persian polymath Khwarizmi, whose name is the
110 origin of our word "algorithm" and whose book popularly known as *Kitab al-Jabr* is the basis of our word "algebra".

It became the basis for mathematics across the Arab world. But it is the original name of the book that points to its inspiration: *The Compendious Book on Calculating by Completion and Balancing, According to Hindu Calculation*.

115 From Baghdad, these ideas spread across the Islamic world. Five hundred years later, in 1202, Leonardo of Pisa, known by his nickname Fibonacci, returned from Algeria to Italy with his father, where he found his compatriots still shackled by the Latin numeral system.

Fibonacci had grown up in a Pisan trading post in Béjaïa, where he had learned fluent Arabic



A sadhu, or mystic, meditates in a boat on the Ganges in Varanasi, India (Photograph: hadynyah/Getty Images)

⁴ historically: high officials

as well as Arab mathematics. On his return, at the age of 32, he wrote the *Liber Abaci, the Book of*
120 *Calculation*. As he explained in the introduction, it was in Algeria that “I was introduced to a wonderful kind of teaching that used the nine figures of the Indias.

“With the sign 0, which the Arabs call zephyr (*al-sifr*), any number whatsoever can be written. Getting to know this pleased me far beyond all else ... Therefore I made an effort to compose this book so that in future the Latin race may not be found lacking in mathematical knowledge.”

125 It was Fibonacci's *Liber Abaci* that first popularised in Europe the use of what were later thought of as “Arabic numerals”, so seeding the growth of banking and accounting, initially in Italy, under dynasties such as the Medici and then in the rest of Europe.

These innovations helped propel the commercial and banking
130 revolution that financed the Renaissance and in time, as these ideas spread, the rise of Europe, ultimately making it look east towards the riches of India, the source of all these ideas.

For it was arguably European commercial expertise and initiative just as much as military might that gave Europe the edge
135 over India.

From the mid-18th century, it was a European corporation, the East India Company – run from the City of London by merchants and accountants, with their ledgers and careful accounting – that ran amok and seized and subjugated a fragmented and divided
140 India in what was probably the supreme act of corporate violence in history.

Today, three-quarters of a century after independence, many believe that India's moment has come again. Its economy has quadrupled in size in a single generation. Its reputation as a centre for mathematics and scientific skills remains intact, as Indian software engineers increasingly staff
145 the new Houses of Wisdom in Silicon Valley.

The only questions are whether it is India, China or the US that will dominate the world by the end of this century, and what sort of India that will be. For a thousand years, India's ideas spread along the Golden Road and transformed the world, creating around itself an Indosphere, a cultural zone that spread over political borders by the sheer power of its ideas. Within this area, Indian
150 culture and civilisation transformed everything they touched.

This poses a question, unthinkable back in 1947 at independence from Britain: could they do so again?



Leonardo of Pisa, better known as Fibonacci (Photograph: GRANGER/Historical Picture Archive/Alamy)

Source: William Dalrymple, in: The Guardian, 1 September 2024 (edited). Word count: 1831

Name: _____

1. According to the article, are these statements true or false?

**Fill the square with T (true) or F (false) and justify your answer by copying down the relevant sentence(s), including the line reference.
($\frac{1}{2}$ point T/F; $\frac{1}{2}$ point correct line reference)**

- a. The study of philosophical concepts led Brahmagupta to come up with the definition of the circular zero as a digit.

☐

- b. There is no doubt that Brahmagupta was the first person to describe gravity.

☐

- c. The vast majority of mathematical discoveries were made in Greece.

☐

- d. Victorian Britain attributed equal value to European literature and to Indian and Asian literature.

☐

- e. India imposed its culture and knowledge on other Asian cultures in order to create a dominant "Indosphere".

☐

☐

**2. Mark the best answer A, B or C according to the text.
There is only one correct answer for each statement.**

a. For his work, Brahmagupta also relied on others like Aryabhata, ...

A ... whose groundbreaking work in astronomy and trigonometry shaped his own understanding.	B ... with whose help he managed to determine the value of Pi to a fairly accurate degree.	C ... with whom he travelled into the Arab and later the Western world to spread their discoveries.
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b. British students are usually taught that the numeral system used today came to Britain through ...

A ... Greek mathematicians like Pythagoras and Archimedes.	B ... mathematicians from the Arab world.	C ... the Indians Brahmagupta and Aryabhata.
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c. The irony about Indian influence on Western culture is that ...

A ... Europe cannot admit Indian influence because it would dishonour European scientists like Fibonacci.	B ... Western powers needed to downplay Indian achievements or lose their reasons for 'civilizing' it.	C ... India provided the west with the very tools and skills needed to oppress India.
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d. A major work written by Persian polymath Khwarizmi ...

A ... established the basic principles of mathematical instruction sequencing called "algorithms".	B ... provided both the name and the basis of knowledge for a key mathematical field, "algebra".	C ... openly acknowledged the Indian origins of the knowledge that they contained.
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e. Today, India is known as a centre of mathematical and scientific skill and ...

A ... is globally recognised for the computational innovations it has spread for centuries.	B ... many software engineers in Silicon Valley originally come from India.	C ... it now dominates the world in those fields, even ahead of China and the USA.
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Name: _____

**3. Answer the questions in full sentences and in your own words.
You can score up to three extra points for good language use.**

- a.** Indicate two ways in which Brahmagupta's and Aryabhata's work are still directly present in our education today. (1 point)

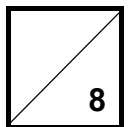
- b.** In what ways were Ancient Greece and ancient India comparable? (2 points)

- c.** What was the "Indosphere" (l. 61), and how did it come to be? Describe it, mentioning two distinct features, and point out what helped it to establish itself. (3 points)

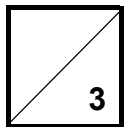
Name: _____

- d. "Could they do so again?" (l. 151-152) What does this last sentence in the article mean? Explain, giving at least two reasons. (2 points)

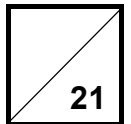
Points for content in Reading Comprehension 3 a-d:



Points for use of language in Reading Comprehension 3 a-d:



Total points in Part I: Reading Comprehension



Name: _____

Part II: Vocabulary

1. These words have been taken from the Reading Comprehension text (p. 2-5). Give a contextual synonym or explain the meaning of the word in your own words.

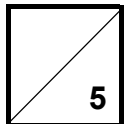
a. treat (l. 14) _____

b. advances (l. 41) _____

c. eager (l. 62) _____

d. shackled (l. 117) _____

e. propel (l. 129) _____



2. Give a contextual antonym of the following words as they appear in the Reading Comprehension text (p. 2-5). Do not use prefixes, or the word 'not'.

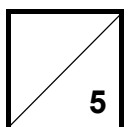
a. crucial (l. 39): _____

b. ignorant (l. 49): _____

c. profound (l. 53): _____

d. sophisticated (l. 96): _____

e. intact (l. 144): _____



3. Use the word given in capitals at the end of some of the lines to form a word that fits in the gap in the same line. Prefixes and suffixes are allowed. Adding '-ing' is not allowed.

The world's sixth 'Blue Zone': Why Singapore values both quantity and quality of life

When it comes to longevity, few places in the world have seen such a drastic jump in life (1) _____ as the island city-state in Southeast Asia. A child born in the country in 1960 was at the time only (2) _____ to live to 65, but a child born in Singapore today can expect to live to more than 86, according to estimates. In addition, the number of centenarians in Singapore doubled over the 10-year period from 2010 to 2020.

EXPECT
LIKE

However, it's not just the quantity of life, but also the quality of life that (3) _____ here appreciate. We spoke to a few of them to understand which policies and practices make their lives healthier, and happier – and what they recommend to others seeking to live here in search of a (4) _____ life.

RESIDE
LENGTH

Singaporeans have witnessed the government's gradual policy changes that affect their health and wellness. "Having grown up here, I've seen firsthand the transformation in community health (5) _____," said Singaporean Firdaus Syazwani, who runs the financial advice blog Dollar Bureau.

CONSCIOUS

"The heavy taxation on cigarettes and alcohol coupled with stringent public smoking bans not only (6) _____ individual health but also enhances public spaces, making them more welcoming and cleaner. No more second-hand smoke!"

IMPROVEMENT

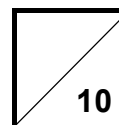
He was surprised to learn about the Blue Zone (7) _____, if only because of the high amount of sugar, salt and coconut milk used in local dishes. But even that's changing because of policy. "Given our local cuisine's penchant for richer ingredients, the Health Promotion Board encourages healthier (8) _____ choices among Singaporeans," he explained. "Measures like mandatory nutritional labelling and the reduction of sugar content in beverages have made a (9) _____ difference in public health (10) _____ and choices. Although it's yet to be known exactly how effective this initiative is, I personally tend to steer away from sugary drinks when I see these labels."

DESIGNATE

DIET

NOTICE
AWARE

Source: **Lindsey Galloway**, BBC, 10 October 2024 (shortened and adapted from <https://www.bbc.com/travel/article/20241002-singapore-the-worlds-sixth-blue-zone>)



4. Read the text below and decide which answer (A, B, C or D, see next page) best fits each gap. Mark the right letter/word in the grid.

In India, Fashion Has Become a Nationalist Cause

In recent decades luxury brands eyed India's fast-moving economy, booming middle class and youthful population, already among the world's largest, hoping they had (1) _____ their next big market. But it wasn't to be.

Talks with the European Union on a free-trade (2) _____ have been stalled since 2007 and the rise of Hindu nationalist politics has become a major obstacle to realizing the country's promise of growth.

Since the Bharatiya Janata Party (3) _____ a national government in 2014, the Indian fashion industry has been pressed to aggressively promote traditional (4) _____ and bypass Western styles. The effort aligns with the party's broader political program: to project multi-faith India, a country of more than 1.3 billion, as a Hindu nation.

And with Narendra Modi, the party's strongman of Hindu nationalism, as prime minister, fears that the country would head into a phase of aggressive nationalism have largely come true. Members of minority communities, accused of being (5) _____ to cows, sacred to Hindus, have been lynched. Critics of Mr. Modi have been (6) _____ as "anti-national," some shot and killed by Hindu nationalist activists.

Fashion, and how Indians think of it, has not been (7) _____. Mr. Modi has made traditional dress a priority and, as many in the country want to please him, the fashion industry has followed along.

"There is a clear connection between rising Hindu nationalism and the aesthetic production of leading Indian fashion designers and the country's luxury industry at large," said Tereza Kuldova, a social anthropologist.

Mr. Modi's (8) _____ to restore Indian-ness in Indian fashion began with his Make in India campaign, announced just months after he took office. [...]

India's leaders have always made political (9) _____ of traditional clothing, from Mohandas K. Gandhi's adoption of the dhoti* to Jawaharlal Nehru's jacket. But active state intervention and patronage* of the fashion industry have never before reached this scale.

"A subtle drift of Indianizing the fashion was already there, but now, with the government's backing, it has gained a new momentum," said David Abraham, one of the country's leading designers and the creative director of Abraham & Thakore, the New Delhi-based fashion (10) _____.

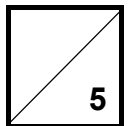


Drying saris on the banks of the Ganges River in Varanasi, a holy city in India (Credit: Dhiraj Singh/Bloomberg/Getty Images)

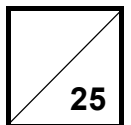
Source: Asgar Qadri, in: The New York Times, November 12, 2017 (slightly adapted)

Name: _____

1	A disproved	B discovered	C displayed	D displaced
2	A contract	B constitution	C agreement	D approval
3	A designed	B fabricated	C constructed	D formed
4	A uniform	B attire	C garment	D outfit
5	A disrespectful	B disengaging	C displeasing	D disconcerting
6	A termed	B branded	C named	D referred
7	A expelled	B exempt	C exposed	D exaggerated
8	A force	B purpose	C strive	D effort
9	A employment	B operation	C usage	D use
10	A badge	B label	C stamp	D emblem



Total points in Part II: Vocabulary



Part III: Grammar

- 1. Fill the gaps with an appropriate form of the verbs in brackets.
Where extra words are given in brackets, position these correctly.**

King Charles heckled by Indigenous senator Lidia Thorpe at Australia's Parliament House

Independent senator yells 'this is not your country' and 'give us a treaty' at monarch during key event of king's five-day visit to Australia

King Charles (1) _____ (attack) by an Indigenous Australian senator, who called for a treaty and accused the crown of (2) _____ (steal) Aboriginal land, as he concluded a speech at Parliament House in Canberra.

Charles, on a five-day visit to Australia with Queen Camilla, addressed MPs and senators in the Great Hall of Parliament House on Monday. It was a key moment of his inaugural visit to Australia as monarch. As he finished the speech – which covered his time as a school student in Australia, the Covid pandemic and Australia's vulnerability to the climate crisis – Lidia Thorpe, an independent senator from Victoria, approached the stage (3) _____ (yell) "this is not your country. You committed genocide against our people. Give us our land back. Give us what you (4) _____ (take) from us – our bones, our skulls, our babies, our people," shouted Thorpe, who is a fiercely outspoken advocate for Indigenous rights. You destroyed our land. Give us a treaty. We want a treaty in this country. You are a genocidalist."

As security officers escorted her to the doors, she shouted: "This is not your land. You are not my king. You are not our king." As she left the hall and (5) _____ (force) back into the foyer, Thorpe, who was dressed in a long possum skin coat, could be heard shouting: "Fuck the colony."

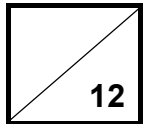
Before the king's speech, the prime minister Anthony Albanese and the opposition leader, Peter Dutton, welcomed Charles and Camilla to Parliament House, (6) _____ (thank) them for standing with Australians in good times and bad. Albanese called it one of the honours of his life (7) _____ (lead) the Australian delegation attending the king's coronation the year before and praised the king's engagement on issues including the climate crisis and reconciliation. "You (8) _____ (show) great respect for Australians, even during times where we've debated the future of our own constitutional arrangements and the nature of our relationship with the crown," Albanese said. "Nothing stands still."

Former prime minister Tony Abbott, who was at the event, expressed his dismay at the protest, labelling it "unfortunate political exhibitionism". (...) Businessman Dick Smith, another guest at the reception, said the disruption was an illustration of Australian democracy. "That's the wonderful part of our democracy – that, whatever she does, she (9) _____ (never/put) in jail for this criticism," he said.

Name: _____

Earlier on Monday, Thorpe **(10)** _____ (release) a statement arguing that Australia should become a republic and establish treaty with First Nations people as part of that process. She said there was “unfinished business that we need **(11)** _____ (resolve) before this country can become a republic. As First Peoples, we never ceded our sovereignty over this land. The crown invaded this country, **(12)** _____ (not seek) treaty with First Peoples, and committed a genocide of our people. King Charles is not the legitimate sovereign of these lands. Any move towards a republic must not continue this injustice. Treaty must play a central role in establishing an independent nation.”

Source: Kate Lyons and Karen Middleton for The Guardian, 21 October 2024 (abridged and edited)



Name: _____

2. Rewrite the sentences using the word given in capitals. Do not change the word. Use between three and six words, including the given word.

- a. *'You really must stay for dessert', Lucy's neighbour told her.*

STAYING

Lucy's neighbour _____
_____ for dessert.

- b. *Jack would never have guessed that at the age of 17 he would be a champion athlete.*

LITTLE

_____ that at the age of 17 he would be a champion athlete.

- c. *I was under the impression that the job was mine if I wanted it.*

MADE

You _____
that the job was mine if I wanted it.

- d. *They say the number of students now at university has reached an all-time high.*

THE

They say the number of students now at university is _____
_____ been.

- e. *Perhaps they misunderstood you and thought the meeting was next week instead?*

REACHED

They might _____
_____ conclusion and thought the meeting was next week instead?

- f. *They're planning on adding another track to allow more trains through the town.*

DRAWN

Plans _____
to add another track to allow more trains through the town.

Name: _____

- g.** *It's not likely to happen but if you're not satisfied with your accommodation, we'll refund your money.*

EVENT

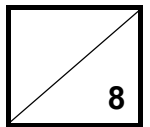
you are not satisfied with your accommodation, your money will be refunded.

- h.** *Sophia got the job even though she didn't have much experience in marketing.*

SPITE

Sophia got the job _____

_____ of experience in marketing.



**3. Read the text below and write the word which best fits in each gap.
Use ONE word in each gap.**

Human sense of smell is fast ...

The human sense of smell is nothing to turn one's nose up at – despite decades of scientific disregard. Charles Darwin is among those (1) _____ have cast aspersions on our sense of smell, suggesting it to be “of extremely slight service” to humans, while scientists have long thought our olfactory abilities rather sluggish.

“Intuitively, each sniff feels (2) _____ taking a long-exposure shot of the chemical environment,” said Dr Wen Zhou, co-author of the research from the Chinese Academy of Sciences, adding that when a smell is detected it can seem like one scent, rather (3) _____ a discernible mixture of odours that arrived at different times. “Sniffs are also separated (4) _____ time, occurring seconds apart (5) _____ one another,” she said.

But now researchers have revealed our sense of smell operates much faster than previously thought, suggesting we are (6) _____ sensitive to rapid changes in odours as we are to rapid changes in colour.

A key challenge to probing our sense of smell, said Zhou, is that it has been difficult to create a setup that enables different smelly substances to be presented in a precise sequence in time within a single sniff.

However, now Zhou and colleagues report how they did just that (7) _____ creating an apparatus in (8) _____ two bottles containing different scents were hooked up to a nose-piece using tubes of different lengths. These tubes were fitted with miniature check valves that were opened by the act of taking a sniff. The setup meant the two scents reached the nose at slightly different times during a single sniff, with a precision of 18 milliseconds (ms).

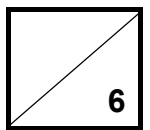
The team then carried out a series of experiments involving 229 participants. In one experiment, participants were presented (9) _____ an apple-like odour and a floral scent, hooked up to the apparatus with different lengths of tubing that meant one scent would reach the nose about 120-180ms before the other. Participants were then asked to sniff the apparatus twice and report (10) _____ the order of the odours was the same or had been reversed.

The team found participants were correct in 597 out of 952 trials (63% of the time), with similar results when another 70 participants carried out the trials with lemon-like and onion-like odours.

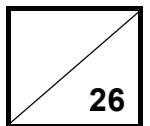
Name: _____

Further tests, involving those who fared particularly well on these trials, revealed participants did better than chance even when two odours arrived at the nose a mere 40-80ms apart, (11) _____ was about ten times shorter than previously thought to be necessary for humans to discriminate between two odours presented in one order and in the reverse order. However, (12) _____ participants could tell the smell had changed when the order of odours was switched, they found it harder to identify which odour actually came first. ...

Source: Nicola Davis, Science correspondent, for The Guardian, 14 October 2024 (adapted and abridged)



Total points in Part III: Grammar



After having completed Parts I-III place all the completed sheets (pp. 1-21) into the A3 cover and hand them in.

You will then get your dictionary/dictionaries OR to your digital device and access to the online dictionaries permitted for use to complete Part IV.

Part IV: Essay

1. Choose one of the four topics below and write an argumentative essay (opinion or for-and-against essay) of 450 to 550 words.
2. Count the words accurately and state the number in the box at the bottom of this sheet.
3. Hand in a fair copy.

Topic 1: Discuss:

“A people that values its privileges above its principles soon loses both.”

— Dwight D. Eisenhower, 1890-1969, US President

Topic 2: Discuss:

“History is written by the victors.”

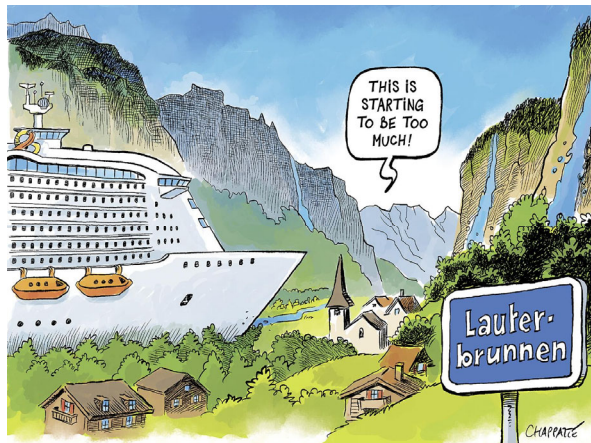
— Winston Churchill, 1874-1965, British politician

Topic 3: Discuss:

“Life is a lot like jazz ... It's best when you improvise.”

— George Gershwin, 1898-1937, American composer and pianist

Topic 4: Should tourism be regulated? Discuss with reference to the cartoon.



Source: Editorial Cartoons | Globecartoon - Political Cartoons - Patrick Chappatte

Total word count: