

MARINHA DO BRASIL
SERVIÇO DE SELEÇÃO DO PESSOAL DA MARINHA

Concurso Público de Admissão ao Colégio Naval
CPACN/2024

**NÃO ESTÁ AUTORIZADA A UTILIZAÇÃO DE
MATERIAL EXTRA**

1º Dia – Prova de Matemática e Inglês

QUESTÃO 1

Considere a e b dois números reais tais que $a \neq b$, $a \cdot b \neq 0$ e que esses números a e b satisfazem a sentença: $a + \frac{1}{b} = b + \frac{1}{a}$. É correto afirmar que o cubo do produto $a \cdot b$ é igual a:

- (A) 8
- (B) -8
- (C) 1
- (D) -1
- (E) $\sqrt{3}$

QUESTÃO 2

Se uma pessoa escreve a sequência decrescente dos números naturais de 96 até 4 e resolve calcular a média aritmética de todos os algarismos usados para escrevê-la, irá encontrar para essa média valor igual a:

- (A) 3,07555...
- (B) 4,68333...
- (C) 5,15222...
- (D) 6,41666...
- (E) 7,25444...

QUESTÃO 3

Seja $A = \{(x, y); x > 0, y > 0 \text{ e } x, y \in \mathbb{Z}\}$, tais que $x^2 - y^2 = 2023$. A quantidade de elementos do conjunto A é igual a:

- (A) 3
- (B) 4
- (C) 6
- (D) 8
- (E) 9

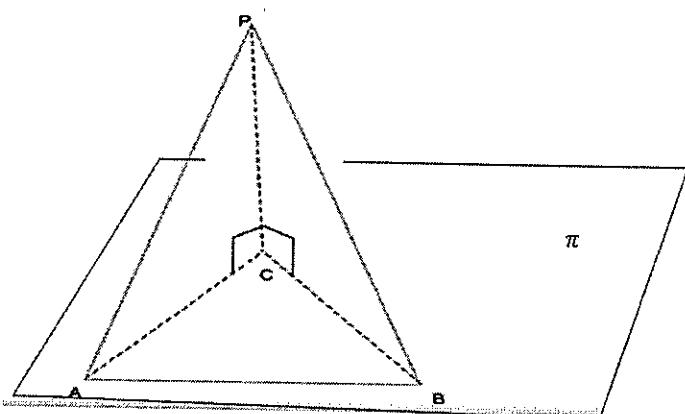
QUESTÃO 4

Determinando o conjunto solução S da inequação $\frac{1}{(x-1)^2} + \frac{1}{x-1} \geq \frac{1}{x-2}$, é correto afirmar que S contém:

- (A) apenas um número inteiro não negativo.
- (B) apenas dois números inteiros não negativos.
- (C) apenas três números inteiros não negativos.
- (D) somente números inteiros negativos.
- (E) somente números inteiros não negativos.

QUESTÃO 5

Observe a figura abaixo.



Considere que A e B estão em um plano π horizontal, que P é o ponto mais alto de uma montanha e que C é a sua projeção ortogonal sobre o plano horizontal. Sabe-se que a distância entre A e B é $1000\sqrt{2}$ m e que os ângulos $CAB = 75^\circ$, $CBA = 60^\circ$ e $PAC = 10^\circ$. A classificação de uma montanha, no que diz respeito a sua altura, de acordo com uma revista especializada, é dada pela tabela abaixo.

ALTURA	CLASSIFICAÇÃO
Até 300m	Muito baixa
De 300m a 700m	Baixa
De 700m a 1200m	Média
De 1200m a 2300m	Alta
Acima de 2300m	Muito Alta

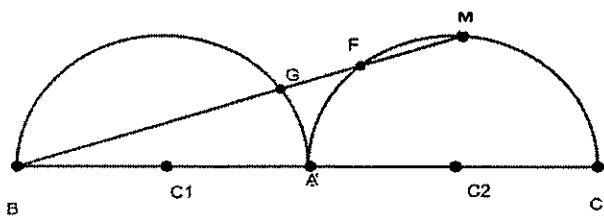
Com base nessas informações, é correto afirmar que a montanha da figura acima pode ser classificada como:

Dados: $\sin 10^\circ = 0,17$; $\cos 10^\circ = 0,98$ e $\tan 10^\circ = 0,18$

- (A) muito baixa.
- (B) baixa.
- (C) média.
- (D) alta.
- (E) muito alta.

QUESTÃO 6

Observe a figura abaixo:



Na figura há dois semicírculos de centros C_1 e C_2 , ambos com o mesmo raio r . Sabe-se que \overline{BM} tem comprimento "m" e que $\overline{GF} = \overline{FM}$. Com base nas informações, é correto afirmar que a medida de \overline{BG} em função de "m" é igual a:

- (A) $\frac{2m}{3}$
 (B) $\frac{3m}{5}$
 (C) $\frac{4m}{3}$
 (D) $\frac{5m}{6}$
 (E) $\frac{3m}{7}$

QUESTÃO 7

Analise as afirmativas abaixo.

- I- $2^{34} + 7^{55}$ é divisível por 9.
 II- $\frac{x^4 - y^4}{x^2 - 2xy + y^2} : \frac{x^2 + xy}{x - y} = \frac{x^2 + y^2}{x}$ com $x \neq y$, $x \neq 0$ e $y \neq 0$.
 III- Se a e b são números naturais e se o produto $a.b$ é divisível por c , então c divide $a+b$.
 IV- A soma dos algarismos do número $N = 10^{2024} + 10^{1500} + 10^{1822} + 10^{1453}$ é 4.

Assinale a opção correta.

- (A) Apenas as afirmativas I, II e III são verdadeiras.
 (B) Apenas as afirmativas I e III são verdadeiras.
 (C) Apenas as afirmativas II e IV são verdadeiras.
 (D) Apenas a afirmativa II é verdadeira.
 (E) Apenas as afirmativas II e III são verdadeiras.

QUESTÃO 8

Um artesão produziu e vendeu todas as suas pulseirinhas a três fãs de uma determinada cantora, que lhe pagaram respectivamente R\$480,00; R\$360,00 e R\$ 640,00. Se todas as pulseirinhas tinham o mesmo e o maior preço possível, quantas pulseirinhas o artesão vendeu?

- (A) 32
 (B) 35
 (C) 37
 (D) 40
 (E) 45

QUESTÃO 9

Considere os trinômios $P_1(x) = \alpha^2 x^2 + \beta x + y$, com $\alpha > 0$ e $P_2(x) = 4x^2 - (0,3333 \dots)^{0,5}x + \sqrt{0,09}$. Sabendo-se que P_1 e P_2 são trinômios idênticos, é correto afirmar que o valor da expressão $\alpha^3 - \beta^2 + y$ é igual a:

- (A) $\frac{827}{40}$
 (B) $\frac{617}{32}$
 (C) $\frac{509}{60}$
 (D) $\frac{383}{23}$
 (E) $\frac{239}{30}$

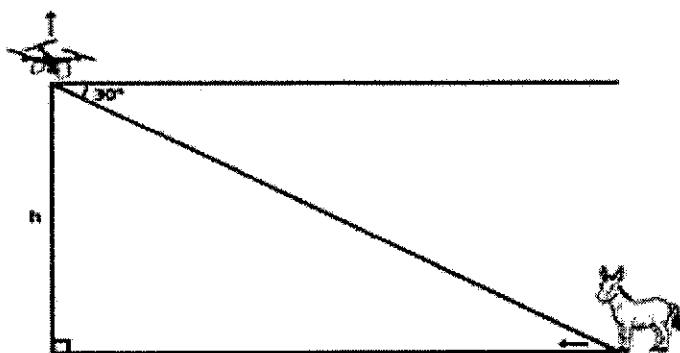
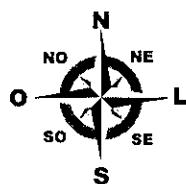
QUESTÃO 10

Um comerciante aumentou o preço P de sua mercadoria em 20%. Após verificar que a venda dessa mercadoria diminuiu, resolveu reduzir o preço reajustado em 30%. Assim, assinale a opção que apresenta o valor final da mercadoria em relação ao preço inicial após, as decisões do comerciante.

- (A) 84% P
 (B) 90% P
 (C) 93% P
 (D) 98% P
 (E) 105% P

QUESTÃO 11

Observe a figura abaixo.



A figura acima apresenta um drone parado a uma altura $h = 10\sqrt{3} \text{ m}$, quando fotografa um jumento sob um ângulo de depressão de 30° . No instante em que a foto é feita, o jumento começa a correr na direção horizontal para oeste com velocidade constante de 4 m/s enquanto o drone ascende verticalmente com velocidade constante de 2 m/s . Com base nessas informações, é correto afirmar que a distância mínima do drone até o jumento ocorrerá num intervalo de tempo entre:

- (A) 2s e 3s
- (B) 3s e 4s
- (C) 4s e 5s
- (D) 5s e 6s
- (E) 6s e 7s

QUESTÃO 12

Um losango ABCD tem lado igual a 3 e ângulo $\hat{A} = 60^\circ$. Os pontos M, N, P e Q pertencem respectivamente aos lados AB, BC, CD e DA tais que $\overline{AM} = \overline{BN} = \overline{CP} = \overline{DQ} = 2$. Com base nas informações, é correto afirmar que a área do quadrilátero MNPQ é igual a :

Dado: $\sin \alpha = \sin(180^\circ - \alpha)$

- (A) $\frac{5\sqrt{5}}{3}$
- (B) $\frac{7\sqrt{2}}{3}$
- (C) $\frac{5\sqrt{3}}{2}$
- (D) $2\sqrt{6}$
- (E) $\sqrt{15}$

QUESTÃO 13

Um colégio promoveu em seu auditório a apresentação de um cantor durante um fim de semana com uma sessão por dia (sexta-feira, sábado e domingo). Foi determinado que em cada sessão o número de alunos presentes deveria ser o mesmo. Todos os 490 alunos do colégio foram a pelo menos uma das sessões e nenhum deles poderia presenciar as três. No entanto, verificou-se que metade dos que assistiram à apresentação de sexta-feira não voltou mais, $1/3$ dos que assistiram à sessão de sábado vieram somente a ela e $1/4$ dos que vieram no domingo não assistiram nem à de sexta-feira nem à de sábado. Com base nessas informações, é correto afirmar que o número de alunos presente em cada dia de sessão foi igual a:

- (A) 204
- (B) 240
- (C) 264
- (D) 288
- (E) 312

QUESTÃO 14

Uma sequência de frações de numerador igual a 1 e denominador que obedece a lei de formação $(2n-1)(2n+1)$ com n inteiro variando de 1 até 1012 tem seus termos somados como se observa abaixo:

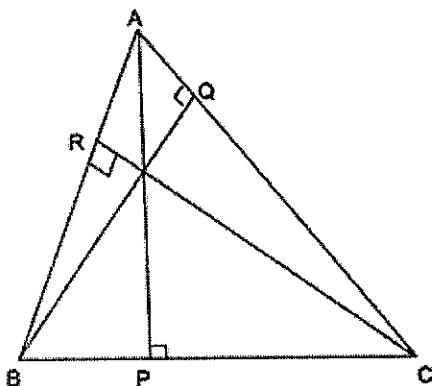
$$S = \frac{1}{1.3.5} + \frac{1}{3.5.7} + \frac{1}{5.7.9} + \dots + \frac{1}{2023.2025.2027}$$

Sabendo que $K = 675 \times 2027$, é correto afirmar que o valor de S em função de K é igual a:

- (A) $\frac{K+1}{4K}$
- (B) $\frac{K-4}{3K}$
- (C) $\frac{2K+3}{5K}$
- (D) $\frac{K+3}{12K}$
- (E) $\frac{K-1}{12K}$

QUESTÃO 15

Observe a figura abaixo.

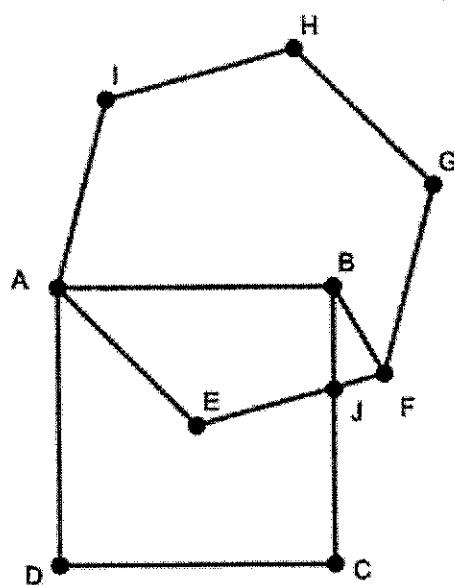


Sabendo que $\overline{BR} = 12$ cm, $\overline{BP} = 9$ cm e $\overline{AQ} = 4$ cm e que a medida em cm de \overline{RQ} é uma fração da forma $\frac{u}{v}$ onde u e v são números primos entre si, então o valor de $u + v$ é igual a:

- (A) 10
- (B) 13
- (C) 15
- (D) 19
- (E) 21

QUESTÃO 16

Observe a figura abaixo.

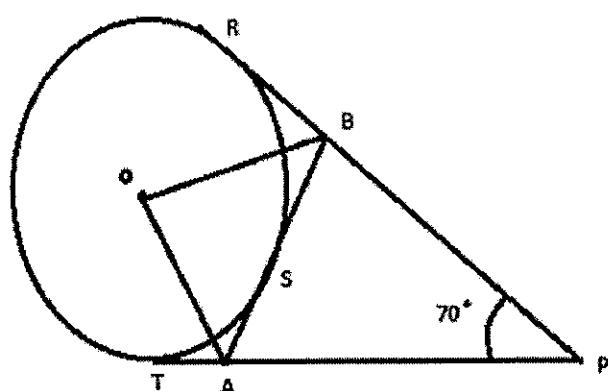


Considere o quadrado ABCD de lado 4 e um hexágono regular AEFGHI em que o ponto E está no centro do quadrado e o ponto J está sobre o lado BC. Assim, assinale a opção que represente corretamente o valor da área do triângulo BJF.

- (A) $3 - \sqrt{5}$
- (B) $2 - \sqrt{3}$
- (C) $4 - 2\sqrt{3}$
- (D) $5 - 3\sqrt{3}$
- (E) $\sqrt{5} - 1$

QUESTÃO 17

Observe a figura abaixo.



O triângulo PAB é formado por três tangentes ao círculo de centro O e o ângulo BPA é 70° . Nessas condições, o ângulo AOB é igual a:

- (A) 55°
- (B) 65°
- (C) 75°
- (D) 85°
- (E) 95°

QUESTÃO 18

Sejam x_1 e x_2 a menor e a maior raiz real, respectivamente, da equação $\sqrt[11]{x} + \frac{\sqrt[11]{x^{10}}}{x} = 4,25$, é correto afirmar que o quociente $\frac{x_1}{x_2}$ é igual a:

- (A) $\frac{1}{2^{27}}$
- (B) $\frac{1}{2^{32}}$
- (C) $\frac{1}{2^{36}}$
- (D) $\frac{1}{2^{44}}$
- (E) $\frac{1}{2^{50}}$

QUESTÃO 19

Numa corrida de automóvel, o carro Alfa com velocidade constante de 198 km/h persegue o carro Beta com velocidade constante de 180 km/h. Nesse determinado instante, o locutor da corrida informa que o computador indica que Beta está 8400 metros à frente de Alfa. Seis minutos após a informação do locutor, o carro Alfa quebra e abandona a corrida. Assim, mantidas as mesmas condições, quanto tempo, em minutos, faltava no momento da quebra para Alfa alcançar Beta?

- (A) 13
- (B) 17
- (C) 19
- (D) 22
- (E) 29

QUESTÃO 20

Um pedreiro A pode realizar um trabalho completo em 40 dias caso trabalhe sozinho. Tendo iniciado o trabalho ele precisou interrompê-lo após o 4º dia e foi então substituído pelo pedreiro B, que é capaz de realizar todo o restante do trabalho em 54 dias. O pedreiro B trabalhou sozinho durante 9 dias, quando então o pedreiro A retornou para ajudá-lo e os dois passam a trabalhar juntos a partir daí até o término do trabalho. Com base nas informações é correto afirmar que o número total de dias para a realização de todo o trabalho foi igual a:

- (A) 47
- (B) 41
- (C) 36
- (D) 33
- (E) 31

Read text I to answer questions 21 to 23.

Text I

What is the best country you have travelled to in your lifetime?

08 comments to the question

#1

Norway. It has the most beautiful nature in the world. Genuinely nice people and it's so safe I hardly locked my bike in most places.

#2

Kyrgyzstan. It absolutely blew my mind. It's stunningly beautiful and has an impressive range of landscapes for such a small country. The food was fantastic, the people were just amazing, and the entire experience was incredible.

#3

Costa Rica, by far. I've been to a lot of countries, but the friendly atmosphere, combined with the beautiful views of Costa Rica are just perfect for me.

#4

Taiwan gets my vote. I think I could live there. I love it! It's easy to get around. The people are so kind. It's clean and safe. So scenic. Big fan.

#5

Panama. Amazing landscapes (tropical forests, mountains, beaches), incredible wildlife (some of the best birds I've had the chance to see) and extremely friendly people. And less tourists than its neighbor, Costa Rica, where I've also been to and liked so much.

#6

Turkey (specifically Istanbul). The food was obscenely tasty and very reasonably priced. The people were friendly (minus the taxi drivers) and the metro was incredibly clean. There's so much history there and so much fun stuff to do.

#7

Italy, for sure. Northern Italy was the most gorgeous place I've ever seen! Traveling to small towns nestled in the Dolomites, eating some of the best food I've ever had, and driving on incredible mountain roads. Then you go south to see beautiful sandy beaches and some famous cities in Europe! That place has everything.

#8

Japan. Hands down the safest country I've ever been to. The best food (not just Japanese food), awesome outdoors (especially for a skier like me), everything is super clean, the mix between ancient and modern, and the most hospitable people I've ever met traveling. If I were to move to another country for a couple of years out of the ones I've been to so far (9 countries), I'd definitely move to Japan.

Adapted from <https://www.reddit.com/r/travel/comments>

QUESTÃO 21

What adjective did the writer in comment #2 use to describe the locals in Kyrgyzstan?

- (A) Impressive.
- (B) Amazing.
- (C) Beautiful.
- (D) Fantastic.
- (E) Incredible.

QUESTÃO 22

In the sentence, "Hands down the safest country I've ever been to" (comment #8), the writer used the present perfect tense to express:

- (A) a future arrangement.
- (B) an instant decision.
- (C) a personal plan.
- (D) a routine activity.
- (E) a life experience.

QUESTÃO 23

It can be inferred from the comments that:

- (A) the writer in #3 doesn't travel a lot.
- (B) the taxi drivers in Turkey are nice to tourists.
- (C) Japan is perfect for people who like skiing.
- (D) the writer in #7 prefers Southern to Northern Italy.
- (E) there are more tourists in Panama than in Costa Rica.

Read text II to answer questions 24 to 27.

Text II

Disability is not an obstacle to success. These inspirational leaders prove that.

World Economic Forum
Dec 2, 2016

Disability need not be an obstacle to success," Stephen Hawking wrote in the first ever world disability report back in 2011. As one of the most influential scientists of modern times, the wheelchair-bound physicist is certainly proof of that. These four leaders show that disability is no barrier to achieving incredible things.

Frida Kahlo

Mexico's most famous artist was born with *spina bifida*, a condition that can cause defects in the spinal cord. At six, she contracted polio, which left one leg much thinner than the other.

In spite of these challenges, she was an active child, but at 18 a bus accident left her with serious injuries. It was while recovering from the accident that Frida discovered her love of painting. She would go on to be one of the most famous Surrealists in the world.

Helen Keller

Born in the US in 1880, an illness left Helen Keller both blind and deaf before her second birthday. While the services available to people with disabilities were less extensive than they are today, Keller's mother sought out experts and ensured her daughter received the best education.

In 1904, Keller graduated from Radcliffe College, becoming the first deaf-blind person to earn a Bachelor of Arts. It was at university that her career as a writer and social activist started. Today, the Helen Keller archives contain almost 500 speeches and essays on topics as varied as birth control and Fascism in Europe.

She would go on to achieve international acclaim, becoming America's first Goodwill Ambassador, and to this day she remains an inspiration to the deaf and blind.

Mark Pollock

"I went blind at 22. From an athlete, I became a young man with a white cane, unsure how to live my life," Mark Pollock, a Forum Young Global Leader explains. But very soon, he found a deeper purpose in life, and realized his disability didn't have to stop him from achieving great things.

"I began to race in deserts, mountains, across oceans, and on the 10th anniversary of going blind, I raced over 43 days to the South Pole."

But in 2010, an accident left him paralyzed, and once again his world changed overnight: "My new life was shattered." He had a choice: to let his disability define him for the rest of his life, or to continue fighting. There was only one way it was going to go. "If I just sat in a wheelchair, I would be giving up completely," he remembers. Today, he's working with other leaders from science, technology and communications to fund and fast-track a cure for paralysis.

Ralph Braun

Ralph Braun was still a young boy when he was diagnosed with muscular dystrophy, an incurable group of genetic diseases that leads to a loss of muscle mass.

A few years after his diagnosis, Ralph began to lose his ability to walk. While doctors warned him he would never be able to lead an independent life, the lively young boy was already proving people wrong, building the first battery-powered scooter. His passion would eventually lead him to establish wheelchair manufacturer BraunAbility.

He died in 2013, but as his company's website notes, his legacy lives on. "Necessity is the mother of invention, and Ralph's physical limitations only served to fuel his determination to live independently and prove to society that people with physical disabilities can participate fully and actively in life."

Adapted from <https://medium.com/world-economic-forum/disability-is-not-an-obstacle-to-success-these-inspirational-leaders-prove-that-72176033669>

QUESTÃO 24

Read the statements below about the text.

- I- Frida Kahlo was the most important European activist and painter of her time.
- II- Helen Keller lost her sight and hearing before she was two years old.
- III- Helen Keller's disabilities did not stop her from having a degree at college.
- IV- When he celebrated his 10th birthday, Mark Pollock spent more than 43 days racing to the South Pole.
- V- Ralph Braun lost his ability to walk due to a disease that cannot be cured.

Now, mark the correct option.

- (A) Only I and IV are correct.
- (B) Only II and V are correct.
- (C) Only II, III and V are correct.
- (D) Only II, III and IV are correct.
- (E) Only I, II, III and V are correct.

QUESTÃO 25

Mark the extract from the text that shows a hypothetical situation and its result.

- (A) "She would go on to be one of the most famous Surrealists in the world."
- (B) "She would go on to achieve international acclaim, becoming America's first Goodwill Ambassador (...)."
- (C) "If I just sat in a wheelchair, I would be giving up completely," he remembers."
- (D) "His passion would eventually lead him to establish wheelchair manufacturer BraunAbility."
- (E) "While doctors warned him he would never be able to lead an independent life, the young lively boy was already proving people wrong (...)."

QUESTÃO 26

All these words taken from the extract about Ralph Braun are adverbs, EXCEPT for:

- (A) eventually.
- (B) lively.
- (C) fully.
- (D) actively.
- (E) independently.

QUESTÃO 27

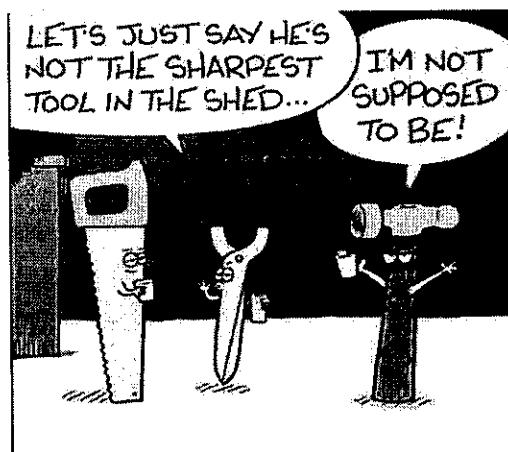
Mark the grammatically correct question to the answer below.

"(He) realized his disability didn't have to stop him from achieving great things."

- (A) What did he realized about his disability?
- (B) What was he realize about his disability?
- (C) What he realized about his disability?
- (D) What realized him about his disability?
- (E) What did he realize about his disability?

Read text III to answer questions 28 to 30.

Text III



https://www.instagram.com/p/CK_uBg8HTQ9/?igshid=MTc4MmM1Yml2Ng%3D%3D

QUESTÃO 29

The cartoon plays with the word "sharp" because it has different meanings. What is the literal meaning of "sharp" in the context of tools?

- (A) Having a fine edge or point.
- (B) Sudden, rapid and large.
- (C) Critical or severe.
- (D) Fashionable and new.
- (E) Clever but possibly dishonest.

QUESTÃO 30

The adjective "sharp" in the cartoon is used in the superlative degree to compare a tool with all the others in the shed. Mark the option in which the adjective in the superlative form is grammatically correct.

- (A) In our office, Jill works by far the hardest.
- (B) Salvador is the most coolest city in Brazil.
- (C) Japan is the fairest place I have ever been to.
- (D) Mark was the friendliest person I met at the wedding party.
- (E) Melinda swam the fastest she has ever swum to win gold.

QUESTÃO 28

What lesson can be learned after reflecting upon this cartoon?

- (A) Live your life to the fullest.
- (B) Take care of your health early.
- (C) Don't hesitate when you should act.
- (D) Accept and respect individual abilities.
- (E) Don't worry and care less about your work.

Read text IV to answer questions 31 and 32.

Text IV

When we started for our drive the sun was shining brightly on Munich, and the air was full of the joyousness of early summer.

Just as we were about to depart, Herr Delbruck (the *maitred'hôtel* of the *QuatreSaisons*, where I was staying) came down bareheaded to the carriage and, after wishing me a pleasant drive, said to the coachman, still holding his hand on the handle of the carriage door, "Remember you are back by nightfall. The sky looks bright but there is a shiver in the north wind that says there may be a sudden storm. But I am sure you will not be late." Here he smiled and added, "for you know what night it is."

Johann answered with an emphatic, "*Ja, mein Herr*," and, touching his hat, drove off quickly. When we had cleared the town, I said, after signalling to him to stop: "Tell me, Johann, what is tonight?" He crossed himself, as he answered laconically: "*Walpurgis nacht*".

(...) "Well, Johann, I want to go down this road. I shall not ask you to come unless you like; but tell me why you do not like to go", I asked. For answer, he seemed to throw himself off the box, so quickly did he reach the ground. Then he stretched out his hands appealingly to me, and implored me not to go. There was just enough of English mixed with the German for me to understand the drift of his talk. He seemed always just about to tell me something – the very idea of which evidently frightened him; but, each time, he pulled himself up, saying, as he crossed himself: "*Walpurgis nacht!*"

Excerpt from "Dracula's Guest", a short story by Bram Stoker (1847-1912), first published in the collection "Dracula's Guest and Other Weird Stories", two years after the author's death. It is believed to have been intended as the first chapter for Stoker's 1897 novel "Dracula", but was deleted prior to publication by the original publishers who felt it was superfluous to the story.

QUESTÃO 32

All statements are correct about the text, EXCEPT for:

- (A) "Dracula's Guest" was first published in 1914.
- (B) "Dracula" was published after Bram Stoker's death.
- (C) "Dracula's Guest" is thought to be the omitted first chapter of "Dracula".
- (D) "Dracula's Guest and Other Weird Stories" is a collection of Stoker's short stories.
- (E) "Dracula's Guest" was removed from "Dracula" by the original publishers of the novel.

QUESTÃO 31

Say if the statements below are T (TRUE) or F (FALSE) about the story.

- () The man driving the carriage couldn't speak English at all.
- () It was sunny that day, but the weather could suddenly change later.
- () Herr Delbruck warned the coachman to return with the carriage before sunset.
- () The narrator of the story seemed to be unaware of what could happen that night.

Now, mark the correct option, from top to bottom.

- (A) (F) (T) (T) (T)
- (B) (T) (F) (T) (F)
- (C) (F) (T) (F) (T)
- (D) (T) (T) (T) (F)
- (E) (T) (F) (F) (T)

Read text V to answer questions 33 and 34.

Text V



@cambridgeuniversity

98% of Black Britons said they have compromised self-expression and identity to fit into the workplace, new findings show.

The Black Britons Voices project is a comprehensive survey of over 10,000 Black Britons - the largest research initiative ever to be conducted with Black British communities.

The project is a ground-breaking collaboration between @CamSociology, @TheVoiceNewspaper and I-Cubed consultants.

The research reveals a central split on the question of British pride in Black communities, and shows that racial prejudice and insensitivity in UK workplaces remain entrenched, with almost 9 in 10 respondents saying they have experienced racial discrimination at work.

#BlackBritishVoices #Sociology# #Cambridge
#UniversityOfCambridge #CambridgeUniversity

<https://www.instagram.com/p/CxvaHkcMW36/?igshid=MTc4MmM1Yml2Ng%3D%3D>

QUESTÃO 33

Mark the option in which the word, extracted from the text, is a noun formed by adding a prefix and a suffix.

- (A) Comprehensive.
- (B) Discrimination.
- (C) Entrenched.
- (D) Insensitivity.
- (E) Initiative.

QUESTÃO 34

According to the text, it is possible to affirm that:

- (A) lots of Black people in American countries do not fit into their workplace due to racial discrimination.
- (B) there has never been any research project as big as this one conducted with Black Britons.
- (C) the Project reveals that there is little discrimination against Black Britons in British companies.
- (D) a lot of people said they suffered racial discrimination inside the University of Cambridge.
- (E) none of the interviewees in the Black British Voices Project expressed pride in being British.

Read text VI to answer questions 35 to 37.

Text VI

Throughout history, countless remarkable women have made invaluable contributions to the fields of Science, Technology, Engineering, and Mathematics (STEM). Their pioneering work has not only advanced human understanding in these disciplines, but also paved the way for future generations of female scientists and engineers, shattering stereotypes and challenging societal norms in the process.

Over the past decade, we've witnessed a significant increase in the number of women and girls from all backgrounds and races expressing interest in STEM fields. This diversity enriches the pool of minds focused on answering some of the most challenging questions of our time. The surge in female participation has led to an explosion of new perspectives, ideas, and innovations, contributing significantly to scientific and technological advancement. There are now more women scientists, engineers, mathematicians, and technologists than ever before working tirelessly to solve complex problems, making our planet a better and more advanced place to live. This shift is not only encouraging but also critical for the future of global innovation.

Despite progress in recent years, there is still a significant gender gap within STEM fields. According to the National Science Foundation, women in STEM make up only 28% of the workforce in science and engineering occupations. This under-representation of women in STEM can be attributed to a number of factors, including unconscious bias and lack of access to opportunities. However, it is crucial that we work towards increasing female representation in these fields, not only for the sake of gender equality, but also to ensure diverse perspectives and approaches to problem-solving within the women in STEM community. By empowering and supporting women in STEM, we can drive innovation and advancements that benefit society as a whole.

Adapted from: <https://abakcus.com/>

QUESTÃO 36

In the sentence, "This under-representation of women in STEM can be attributed to a number of factors" (third paragraph), the modal verb expresses the idea of:

- (A) possibility.
- (B) permission.
- (C) prohibition.
- (D) obligation.
- (E) request.

QUESTÃO 37

What is the main topic of the text?

- (A) The increase of workforce in science and engineering occupations.
- (B) The notable progress in the field of science and technology.
- (C) The huge decrease of female representation in STEM.
- (D) The critical issues for the future of global innovation.
- (E) The relevance of women's contributions in STEM.

QUESTÃO 35

In the sentence "This shift is not only encouraging but also critical for the future of global innovation" (second paragraph), the subject "This shift" refers to:

- (A) global interest in STEM fields.
- (B) more women working in STEM.
- (C) under-representation of women in STEM.
- (D) advancements in STEM that benefit society.
- (E) bias and lack of access to opportunities in STEM.

Read text VII to answer questions 38 to 40.

Text VII

Techcrunch - Media and Entertainment

HBO's 'The Last of Us' is a video game adaptation that's actually good

By Lauren Forristal
January 13, 2023

"The Last of Us is HBO's post-apocalyptic thriller based on the popular video game. It debuted on Sunday, January 15, 2023, on HBO channels. The series has nine episodes in total and follows the plot of the 2013 game in which a fungus outbreak turns half of the world's population into flesh-eating zombies – a.k.a. "clickers."

Starring "The Mandalorian" actor Pedro Pascal as Joel (a hardened middle-aged survivor tormented by the trauma of his past), and "Game of Thrones" actress Bella Ramsey as Ellie (a feisty, 14 year-old girl), "The Last of Us centers around these two characters who, at first, want nothing to do with each other. Joel and his confidant, Tess (played by Anna Torv), are tasked with smuggling Ellie out of the quarantine zone in Boston and across the U.S. As the story progresses, Ellie and Joel's dynamic shifts as they start to depend on each other.

"The Last of Us" is HBO's first foray into adapting a video game into a series. After so many video game adaptation fails, the show is a relief to many "Last of Us" fans. It was co-written by the game's creator, Neil Druckmann, so there was little room for it to flop in the first place. HBO's "The Last of Us" is Druckmann's love letter addressed to the millions of loyal fans that help keep the decade-long franchise alive.

On the surface, "The Last of Us" may just seem like another survival story with zombies. However, the HBO series doesn't focus on dramatic, long-winded shootouts and shots of the undead. Instead, it focuses on the human relationships between the uninfected as their world turns more uncertain by the minute.

But what makes this show so great, in our opinion, is the fact that viewers don't need to play the game to understand it. Although HBO's "The Last of Us" is very accurate to the timeline of the game and has Easter eggs sprinkled throughout, there are some key differences that help the story speak to a larger audience.

Adapted from <https://techcrunch.com/2023/01/13/the-last-of-us-hbo-series>

QUESTÃO 38

It is possible to state that the main purpose of the text is to provide readers with a:

- (A) TV series review.
- (B) TV series description.
- (C) video game adaptation.
- (D) video game explanation.
- (E) TV series advertisement.

QUESTÃO 39

According to the author, The Last of Us is:

- (A) a story focused on the relationship between two main characters.
- (B) another tedious story about survival and shooting zombies.
- (C) a good video game poorly turned into a TV show by HBO.
- (D) a 2023 TV series that inspired the creation of a video game.
- (E) an HBO series that can only be understood by video game players.

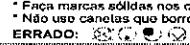
QUESTÃO 40

In the extract, "The series has nine episodes in total and follows the plot of the 2013 game in which a fungus outbreak turns half of the world's population into flesh-eating zombies" (first paragraph), the underlined pronoun refers to:

- (A) outbreak.
- (B) total.
- (C) plot.
- (D) fungus.
- (E) zombies.

INSTRUÇÕES GERAIS AO CANDIDATO

- 1 - Verifique se a prova recebida e a folha de respostas são da mesma cor (consta no rodapé de cada folha a cor correspondente) e se não faltam questões ou páginas: o caderno é composto por uma prova escrita objetiva com 40 questões de múltipla escolha. Escreva e assine corretamente seu nome, coloque seu número de inscrição e o dígito verificador (DV) apenas nos locais indicados;
- 2 - O tempo para a realização da prova será de **5 (cinco) horas**, incluindo o tempo necessário à marcação das respostas na folha de respostas, e não será prorrogado;
- 3 - Só inicie a prova após ser autorizado pelo Fiscal, interrompendo sua execução quando determinado;
- 4 - Iniciada a prova, não haverá mais esclarecimentos. O candidato somente poderá deixar seu lugar, devidamente autorizado pelo Supervisor/Fiscal, para se retirar definitivamente do recinto de prova ou, nos casos abaixo especificados, devidamente acompanhado por militar designado para esse fim:
 - atendimento médico por pessoal designado pela Marinha Brasil;
 - fazer uso de banheiro; e
 - casos de força maior, comprovados pela supervisão do certame, sem que aconteça saída da área circunscrita para a realização da prova. Em nenhum dos casos haverá prorrogação do tempo destinado à realização da prova; em caso de retirada definitiva do recinto de prova, esta será corrigida até onde foi solucionada;
- 5 - Confira nas folhas de questões as respostas que você assinalou como corretas antes de marcá-las na folha de respostas. Cuidado para não marcar duas opções para uma mesma questão na folha de respostas (a questão será perdida);
- 6 - Para rascunho, use os espaços disponíveis nas folhas de questões, mas só serão corrigidas as respostas marcadas na folha de respostas;
- 7 - O tempo mínimo de permanência dos candidatos no recinto de aplicação de provas é de **150 minutos**.
- 8 - Será eliminado sumariamente do processo seletivo/concurso e suas provas não serão levadas em consideração o candidato que:
 - a) der ou receber auxílio para a execução da Prova;
 - b) utilizar-se de qualquer material não autorizado;
 - c) desrespeitar qualquer prescrição relativa à execução da Prova;
 - d) escrever o nome ou introduzir marcas identificadoras noutro lugar que não o determinado para esse fim; e
 - e) cometer ato grave de indisciplina.
- 9 - Instruções para o preenchimento da folha de respostas:
 - a) use caneta esferográfica azul ou preta e de material transparente;
 - b) escreva seu nome em letra legível no local indicado;
 - c) assine seu nome no local indicado;
 - d) no campo inscrição DV, escreva seu número de inscrição nos retângulos, da esquerda para a direita, um dígito em cada retângulo. Escreva o dígito correspondente ao DV no último retângulo. Após, cubra todo o círculo correspondente a cada número. Não amasse, dobre ou rasgue a folha de respostas, sob pena de ser rejeitada pelo equipamento de leitura ótica que a corrigirá; e
 - e) só será permitida a troca de folha de respostas até o início da prova, por motivo de erro no preenchimento nos campos nome, assinatura e número de inscrição, sendo de inteira responsabilidade do candidato qualquer erro ou rasura na referida folha de respostas, após o início da prova.
- 10 - Procure preencher a folha com atenção de acordo com o exemplo abaixo:

 Diretoria de Ensino da Marinha	Name: ROBERTO SILVA Assinatura: Roberto Silva																																																													
Instruções de Preenchimento: • Não rasure esta folha. • Não rabisque nas áreas de respostas. • Faça marcas sólidas nos círculos. • Não use canetas que borrem o papel. ERRADO:  CORRETO: 	PREENCHIMENTO DO CANDIDATO INSCRIÇÃO <table border="1"><tr><td>5</td><td>7</td><td>0</td><td>2</td><td>0</td><td>7</td></tr></table> DV <table border="1"><tr><td>0</td><td>0</td></tr></table> P G <table border="1"><tr><td>2</td><td>4</td></tr></table>	5	7	0	2	0	7	0	0	2	4	Preenchimento da DEnM <table border="1"><tr><td>01 A B C D E</td><td>02 A B C D E</td><td>03 A B C D E</td><td>04 A B C D E</td><td>05 A B C D E</td><td>06 A B C D E</td><td>07 A B C D E</td><td>08 A B C D E</td><td>09 A B C D E</td><td>10 A B C D E</td><td>11 A B C D E</td><td>12 A B C D E</td><td>13 A B C D E</td><td>14 A B C D E</td><td>15 A B C D E</td><td>16 A B C D E</td><td>17 A B C D E</td><td>18 A B C D E</td><td>19 A B C D E</td><td>20 A B C D E</td><td>21 A B C D E</td><td>22 A B C D E</td><td>23 A B C D E</td><td>24 A B C D E</td><td>25 A B C D E</td><td>26 A B C D E</td><td>27 A B C D E</td><td>28 A B C D E</td><td>29 A B C D E</td><td>30 A B C D E</td><td>31 A B C D E</td><td>32 A B C D E</td><td>33 A B C D E</td><td>34 A B C D E</td><td>35 A B C D E</td><td>36 A B C D E</td><td>37 A B C D E</td><td>38 A B C D E</td><td>39 A B C D E</td><td>40 A B C D E</td><td>41 A B C D E</td><td>42 A B C D E</td><td>43 A B C D E</td><td>44 A B C D E</td><td>45 A B C D E</td><td>46 A B C D E</td><td>47 A B C D E</td><td>48 A B C D E</td><td>49 A B C D E</td><td>50 A B C D E</td></tr></table>	01 A B C D E	02 A B C D E	03 A B C D E	04 A B C D E	05 A B C D E	06 A B C D E	07 A B C D E	08 A B C D E	09 A B C D E	10 A B C D E	11 A B C D E	12 A B C D E	13 A B C D E	14 A B C D E	15 A B C D E	16 A B C D E	17 A B C D E	18 A B C D E	19 A B C D E	20 A B C D E	21 A B C D E	22 A B C D E	23 A B C D E	24 A B C D E	25 A B C D E	26 A B C D E	27 A B C D E	28 A B C D E	29 A B C D E	30 A B C D E	31 A B C D E	32 A B C D E	33 A B C D E	34 A B C D E	35 A B C D E	36 A B C D E	37 A B C D E	38 A B C D E	39 A B C D E	40 A B C D E	41 A B C D E	42 A B C D E	43 A B C D E	44 A B C D E	45 A B C D E	46 A B C D E	47 A B C D E	48 A B C D E	49 A B C D E	50 A B C D E
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- 11 - Será autorizado ao candidato levar a prova faltando 30 minutos para o término do tempo previsto de realização do concurso. Ressalta-se que o caderno de prova levado pelo candidato é de preenchimento facultativo, e não será válido para fins de recursos ou avaliação.
- 12 - O candidato que não desejar levar a prova está autorizado a transcrever suas respostas, dentro do horário destinado à solução da prova, no CARTÃO INDIVIDUAL PARA ANOTAÇÃO DO GABARITO. É proibida a utilização de qualquer outro tipo de papel para anotação do gabarito.