



Nr.
 -București-

Transferul în colegiile naționale militare, în anul școlar 2021-2022

TEST GRILĂ DE VERIFICARE A CUNOȘTIINȚELOR LA DISCIPLINA

MATEMATICĂ-clasa a XI-a

VARIANTA 2

02.09.2021

1. Numărul soluțiilor reale ale ecuației $3^{\sqrt{x}} = \left(\frac{1}{3}\right)^{x-2}$ este:			
A. 5	B. 3	C. 2	D. 1
2. Se consideră vectorii $\vec{u} = 2\vec{i} + \vec{j}$, $\vec{v} = \vec{i} - 3\vec{j}$, $\vec{w} = a\vec{i} + 4\vec{j}$, unde $a \in \mathbb{R}$. Valoarea numărului real a pentru care $\vec{u} + \vec{v}$ și \vec{w} sunt coliniari, este:			
A. -6	B. $-\frac{3}{2}$	C. $-\frac{1}{6}$	D. 6
3. Se consideră ΔABC cu $A(-1,5)$; $B(-4,0)$; $C(2,0)$. Ecuația medianei din A a triunghiului ABC este:			
A. $y - 5 = 0$	B. $x + y - 4 = 0$	C. $x + 1 = 0$	D. $x - y + 6 = 0$
4. Mulțimea valorilor parametrului real m , pentru care funcția dată prin legea $f(x) = \log_3((m+1)x^2 + 2(m+1)x + m)$ este definită pe \mathbb{R} , este egală cu:			
A. $(-1; 1)$	B. $(0; +\infty)$	C. \emptyset	D. \mathbb{R}
5. Știind că numărul complex z_0 este soluție a ecuației $ z + z = 8 + 4i$, atunci $ z_0 $ este:			
A. 8	B. 5	C. 4	D. 3
6. Numărul $a = \log_6 16$ scris în funcție de numărul $b = \log_{12} 27$ este:			
A. $a = \frac{4-b}{3+b}$	B. $a = \frac{4(3-b)}{3+b}$	C. $a = \frac{2b}{3-b}$	D. $a = \frac{4(3+b)}{3-b}$
7. Coeficientul binomial al celui de-al doilea termen al dezvoltării $\left(\sqrt[3]{x} + \frac{1}{\sqrt{x}}\right)^n$ este 21. Rangul termenului care îl conține pe x^3 este:			
A. 3	B. 4	C. 5	D. 1
8. Suma soluțiilor ecuației $\frac{1}{2} \sin x + \frac{\sqrt{3}}{2} \cos x = \frac{1}{2}$, $x \in [0; 2\pi]$, este:			
A. $\frac{7\pi}{6}$	B. $\frac{\pi}{3}$	C. $\frac{2\pi}{3}$	D. $\frac{3\pi}{2}$
9. Se consideră funcția $f: \mathbb{R} \rightarrow \mathbb{R}$, $f(x) = 2x - 3$. Știind că f^{-1} este inversa funcției f , soluția ecuației $f(x+3) + f(2x) - f^{-1}(x) = 19$, se află în interval:			
A. $(0; 2)$	B. $(1; 2)$	C. $[0; 1)$	D. $(-2; 0]$



**TEST DE VERIFICARE A CUNOȘTINȚELOR
-DISCIPLINA LIMBA ENGLEZA-
CLASA a XI-a
VARIANTA 2**

READING COMPREHENSION

Read the following text and choose the correct answer A, B, C or D:

Dolphins, sea lions and other mammals have been part of special military units since the end of World War II as a part the US Navy's Marine Mammal Program. They work below the surface: spotting suspicious objects like mines, enemy swimmers and vehicles.

1. Dolphins and other sea mammals are used by the US Navy:
 - A. in underwater operations
 - B. to lay underwater mines
 - C. to attack enemy swimmers
 - D. instead of underwater vehicles

You can find Eden Project in Cornwall, in the south-west part of England.

It's a green area made up of two enormous greenhouses called 'biomes'. It first opened on 17th March 2001 and since then has attracted thousands and thousands of visitors.

The biggest greenhouse is the Tropical Biome and represents a rainforest environment. Inside you can find tropical plants such as banana plants, coffee, rubber and giant bamboo. The second greenhouse represents a Mediterranean environment and contains plants such as olives, grape vines and various sculptures. There is also an outside botanical garden which contains plants from around the world such as tea and sunflowers.

In September 2005 the Eden Project opened an area called 'The Core' which is an educational facility with classrooms and exhibition areas. Children and adults can come here to attend lessons and workshops to learn about how we can protect our environment.

Each year at the Eden Project a series of music concerts are organized. These are called 'Eden Sessions'. But if music isn't your thing, why not visit the Eden Project during the winter period? There's an ice rink where you can go skating and also a Christmas market where you can buy some of your Christmas presents.

2. What is Eden Project?
 - A. the largest botanical garden in Europe
 - B. a big biome which opened in March 2001
 - C. a place where visitors can see thousands of plants
 - D. a tourist attraction in the north of England
3. Where can you admire art objects?
 - A. in the botanical garden
 - B. in the Mediterranean greenhouse
 - C. in the 'Core' facility
 - D. in the tropical greenhouse

4. What else can visitors to the Eden Project do?
 A. take music lessons
 B. learn how to grow plants
 C. go to Christmas concerts
 D. shop for seasonal gifts



LANGUAGE IN USE

Choose the right answer A, B, C or D:

5. He hates answering the phone and often lets it ...
 A. ringing
 B. ring
 C. to ring
 D. to be ringing
6. I wish our Maths teacher ... us so much homework. I never have enough time to finish it.
 A. will not give
 B. couldn't give
 C. doesn't give
 D. didn't give
7. With the destruction of tropical rain forests, very many animal species ... with extinction.
 A. are threatened
 B. have threatened
 C. are threatening
 D. would have been threatened
8. If they ... about the warning for bad weather, they wouldn't have left their house.
 A. had heard
 B. heard
 C. had heared
 D. heared
9. Their holiday ... a disaster, as the weather was terrible.
 A. may be
 B. can be
 C. must have been
 D. can't have been
10. Would you ... the salt, please?
 A. carry
 B. deliver
 C. give
 D. pass
11. The new recruits remind me ... my cadet years.
 A. of
 B. from
 C. off
 D. to
12. She ... the blouse but it was obviously too small.
 A. put down
 B. took up
 C. tried on
 D. tested
13. '*Sorry to interrupt you!*' is used to express:
 A. disagreement
 B. agreement
 C. opinion
 D. apology
14. I am going to spend a few days with some ... of mine who live abroad.
 A. ancestors
 B. relatives
 C. families
 D. companies

15. The girl ... parents have already arrived looks happy.
A. who's
B. whose
C. of which
D. that's
16. The journalist asked the author how many novels ... till then.
A. did he write
B. had he written
C. he had written
D. he wrote
17. I went to the school library ... borrow a book.
A. in order to
B. for
C. because
D. so that
18. Choose the correct sentence to begin a descriptive paragraph:
A. Years ago, young people dreamt of having their own successful business.
B. Set in the heart of Southern England, London is one of the biggest and busiest cities in Europe.
C. Going abroad to study or to live is not always a pleasure.
D. Why is it that American working women complain about job discrimination?

