

Introdução à Engenharia de Software

1º Semestre, 2023/24

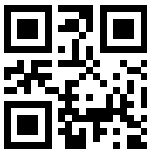
Exame Época Normal
15 de janeiro de 2024

Número mecanográfico: _____

Nome: _____

O exame tem 20 perguntas, sendo que 17 são de escolha múltipla e 03 de preenchimento de espaços vazios. As perguntas de escolha múltipla tem apenas uma resposta correta, devem ser respondidas na grelha presente nesta página do enunciado com um **X**. Para anular uma resposta, o aluno deve preencher a célula. As respostas anuladas não descontam, mas as erradas **descontam** (cotação/(hipóteses – 1)). As perguntas de preenchimento de espaços vazios não descontam. A duração total do exame é de **1h30**. A pergunta adicional, no final, servirá **apenas** para lidar com situações próximas da nota mínima.

*The exam has 20 questions, with 17 being multiple-choice and 03 being focused on completing empty spaces. The multiple-choice questions have only one correct answer. The multiple-choice questions have only one correct answer and should be answered in the grid provided on this page of the exam with an **X**. To cancel an answer, the student should fill in the cell. Canceled answers do not result in deductions, but incorrect answers **deduct** (score/(options – 1)). The fill-in-the-blank questions do not result in deductions. The total duration of the exam is **1h30**. The additional question, at the end, will be used **only** to tackle situations close to the minimum grade.*



	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
A																	
B																	
C																	
D																	

1. (1.2 pts) Solve: $3(x-2) = 9$

A. $x = 11$

B. $x = 7$

C. $x = 3$

D. $x = 5$
2. (0.6 pts) $\sin^2 \theta + \cos^2 \theta = ?$

A. 1

B. θ

C. 0

D. 2
3. (1.2 pts) What is the quotient rule numerator?

A. fg'

B. $f'g + fg'$

C. $f'g'$

D. $f'g - fg'$
4. (0.9 pts) Sum of angles in a quadrilateral?

A. 270 degrees

B. 360 degrees

C. 540 degrees

D. 180 degrees
5. (1.2 pts) Solve: $x^2 = 16$

A. $x = \pm 4$

B. $x = 8$

- C. $x = 256$
D. $x = 4$
6. (1.2 pts) What is the derivative of x cubed?
A. x squared
B. $3x$
C. x cubed
D. $3x$ squared
7. (0.9 pts) Probability of rolling a 3 on a die?
A. $1/2$
B. $1/6$
C. $1/3$
D. $1/12$
8. (1.2 pts) Factor: x squared - 9
A. $x(x-9)$
B. $(x-9)(x+1)$
C. $(x-3)$ squared
D. $(x-3)(x+3)$
9. (0.9 pts) What is the sample space of a coin flip?
A. 1,2
B. 0,1
C. H,T,E
D. H,T
10. (0.9 pts) Area of a rectangle 5 by 3?
A. 18
B. 30
C. 15
D. 8
11. (0.6 pts) What is $\sin(90 \text{ degrees})$?
A. $\sqrt{2}/2$
B. 1
C. -1
D. 0
12. (1.2 pts) Solve: absolute value of $x = 5$
A. $x = 5$
B. $x = -5$
C. $x = \text{plus or minus } 5$
D. $x = 25$
13. (1.2 pts) What is $d/dx(\cos x)$?
A. $-\cos x$
B. $-\sin x$
C. $\sin x$
D. $\cos x$
14. (1.2 pts) What is $d/dx(\sin x)$?
A. $\cos x$
B. $-\cos x$
C. $\sin x$
D. $-\sin x$
15. (0.9 pts) Pythagorean theorem: a squared + b squared = ?
A. $2c$
B. $a+b$

C. c^2

D. ab

16. (0.9 pts) Range of 10,20,30,40?

A. 30

B. 20

C. 40

D. 50

17. (0.6 pts) What is $\cos(0^\circ)$?

A. 1

B. $\frac{\sqrt{3}}{2}$

C. 0

D. -1

18. (0.9 pts) In a normal distribution, mean equals?

A. Median

B. Both

C. Mode

D. Neither

19. (1.2 pts) What is the derivative of a constant?

A. constant

B. 1

C. 0

D. undefined

20. (1.2 pts) Simplify: $3x^2 \times 2x$

A. $6x^2$

B. $5x^3$

C. $6x^3$

D. $5x^2$