NEWFOUNDLAND AND LABRADOR MATHEMATICS 3208 · UNIT B · 25 QUESTIONS

Derivatives — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **The derivative of $f(x) = x^3$ is**

- A $3x^2$
- B x^2
- C $4x^3$
- D 0

Understand It with Pulse | Flag a mistake

2 **The derivative of $f(x) = x^4$ is**

- A x^3
- B $4x^3$
- C $5x^4$
- D 0

Understand It with Pulse | Flag a mistake

3 **The derivative of $f(x) = x^5$ is**

- A x^4
- B $6x^5$
- C $5x^4$
- D 0

Understand It with Pulse | Flag a mistake

4 **The derivative of $f(x) = x^2$ is**

- A x^1
- B $3x^2$
- C 0
- D $2x^1$

Understand It with Pulse | Flag a mistake

5 **If $f(x) = 3x^2$, then $f'(2)$ is**

ANSWER

Understand It with Pulse | Flag a mistake

6 **If $f(x) = 2x^3$, then $f'(1)$ is**

ANSWER

Understand It with Pulse | Flag a mistake

7 **If $f(x) = 4x^2$, then $f'(3)$ is**

ANSWER

Understand It with Pulse | Flag a mistake

8 **If $f(x) = 2x^2 + 3$, then $f'(1)$ is**

ANSWER

Understand It with Pulse | Flag a mistake

9 **If $f(x) = 3x^2 + 1$, then $f'(2)$ is**

ANSWER

Understand It with Pulse | Flag a mistake

10 **The derivative of $f(x) = \sin x$ is**

A cos x

B -sin x

C -cos x

D tan x

Understand It with Pulse | Flag a mistake

11 The derivative of f(x) = cos x is

- A sin x
- B -sin x
- C cos x
- D -cos x

Understand It with Pulse | Flag a mistake

12 If f(x) = sin x , then f'(0) is

ANSWER _____

Understand It with Pulse | Flag a mistake

13 If f(x) = cos x , then f'($\frac{\pi}{2}$) is

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **The derivative of $f(x) = e^x$ is**

- **A** xe^x
- **B** 1
- **C** e^x
- **D** ln x

Understand It with Pulse | Flag a mistake

15 **The derivative of $f(x) = \ln x$ is**

- **A** x
- **B** e^x
- **C** ln x
- **D** $\frac{1}{x}$

Understand It with Pulse | Flag a mistake

16 **If f(x) = ln x , then f'(2) is, to two decimal places**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **If f(x) = $(2x + 1)^3$, then f'(1) is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **If f(x) = $(3x + 2)^3$, then f'(0) is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **If f(x) = x^4 , then f''(1) is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **If $f(x) = x^4$, then $f''(2)$ is**

ANSWER

Understand It with Pulse | Flag a mistake

21 **If $f(x) = x^3 - 2x$, then $f'(2)$ is**

ANSWER

Understand It with Pulse | Flag a mistake

22 **If $f(x) = 5x^2 + 3x - 1$, then $f'(1)$ is**

ANSWER

Understand It with Pulse | Flag a mistake

23 If $f(x) = x^2$, then the slope of the tangent at $x = 3$ is

- **A** 6
- **B** 9
- **C** 3
- **D** 0

Understand It with Pulse | Flag a mistake

24 If $f(x) = \frac{1}{x}$, then $f'(1)$ is

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **The derivative of a constant function is**

A 1

B 0

C x

D does not exist

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	A	**10.**	A	**19.**	12
2.	B	**11.**	B	**20.**	48
3.	C	**12.**	1	**21.**	10
4.	D	**13.**	-1	**22.**	13
5.	12	**14.**	C	**23.**	A
6.	6	**15.**	D	**24.**	-1
7.	24	**16.**	0.5	**25.**	B
8.	4	**17.**	54		
9.	12	**18.**	36		

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