NOVA SCOTIA CALCULUS 12 · UNIT B · 25 QUESTIONS

Differentiation of Polynomial and Algebraic Functions — 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 **Find the derivative at $x = 2$ of $3x^{2}$.**

ANSWER _____

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2 **Find the derivative at $x = 2$ of $2x^{3}$.**

ANSWER _____

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3 **Find the derivative at $x = 2$ of $1x^{4}$.**

ANSWER _____

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4 **Find the derivative at $x = 2$ of $5x^{2}$.**

ANSWER _____

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5 **Find the derivative at x = 2 of $4x^3$.**

ANSWER _____

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6 **Find the derivative at x = 2 of $2x^5$.**

ANSWER _____

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7 **Find the derivative at x = 2 of $7x^2$.**

ANSWER _____

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8 **Find the derivative at x = 2 of $3x^4$.**

ANSWER _____

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9 **Find the derivative at x = 2 of $1x^3$.**

ANSWER _____

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10 **Find the derivative at x = 2 of $2x^2$.**

ANSWER _____

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11 **Find the derivative at x = 2 of $1x^6$.**

ANSWER _____

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12 **Find the derivative at x = 2 of $5x^3$.**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **Find the derivative at $x = 2$ of $4x^2$.**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **Find the derivative at $x = 2$ of $2x^4$.**

ANSWER _____

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15 **The derivative of x^n , for constant n , is**

A $n \times x^n - 1$

B $x^n + 1$

C $n \times x^n$

D $1 \div x^n$

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16 **The derivative of a constant is**

A 1

B 0

C the constant

D x

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17 **The derivative of $3x^2$ is**

A 3x

B 9x

C 6x

D x^2

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18 **The power rule applies directly to**

A a sine function

B a logarithm

C an exponential with base e only

D a power of x

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19 **The derivative of a sum is**

A the sum of the derivatives

B the product of the derivatives

C zero

D the larger derivative

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20 **The derivative of $x^3 - 2x$ is**

- A $x^2 - 2$
- B $3x^2 - 2$
- C $3x^2 + 2$
- D $6x - 2$

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21 **The derivative of the square root of x is**

- A 2 × the square root of x
- B the $\sqrt{x} \div 2$
- C 1 ÷ 2 × the square root of x
- D $-\sqrt{x}$

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22 The product rule for f × g gives

- A f' × g'
- B f + g
- C f' + g'
- D f' × g + f × g'

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23 The quotient rule for $\frac{f}{g}$ gives

- A gf' - fg', all / g²
- B f' / g'
- C f' - g'
- D gf' + fg'

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24 **The chain rule is needed for**

- **A** a sum of two functions
- **B** a function inside another function
- **C** a constant only
- **D** a straight line

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25 **The derivative of $\frac{1}{x}$ is**

- **A** $\frac{1}{x^2}$
- **B** $-x$
- **C** $-\frac{1}{x^2}$
- **D** x

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	12	**10.**	8	**19.**	A
2.	24	**11.**	192	**20.**	B
3.	32	**12.**	60	**21.**	C
4.	20	**13.**	16	**22.**	D
5.	48	**14.**	64	**23.**	A
6.	160	**15.**	A	**24.**	B
7.	28	**16.**	B	**25.**	C
8.	96	**17.**	C		
9.	12	**18.**	D		

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