NORTHWEST TERRITORIES CALCULUS 12 (MCALC12) · UNIT D · 10 QUESTIONS

Integration and Applications — 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 $\frac{d}{dx}\int_1^x \cos t\,dt$ is

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

Understand It with Pulse | Flag a mistake

2 $\frac{d}{dx}\int_0^{3x} t\,dt$ is

- A 3x
- B 9x
- C 6x
- D $9x^2$

Understand It with Pulse | Flag a mistake

3 $\int_1^2 3x^2\,dx$ is

A 7

B 8

C 9

D 6

Understand It with Pulse | Flag a mistake

4 The area under $y = 2x$ from $x = 0$ to $x = 3$ is

A 6

B 12

C 3

D 9

Understand It with Pulse | Flag a mistake

5 The area between $y = 9 - x^2$ and the x-axis is

- A 18
- B 54
- C 36
- D 27

Understand It with Pulse | Flag a mistake

6 The volume formed by rotating $y = x^2$, $0 \leq x \leq 1$, about the x-axis is

- A $\frac{\pi}{}$
- B $\frac{\pi}{}$
- C π
- D $\frac{2\pi}{}$

Understand It with Pulse | Flag a mistake

7 The volume formed by rotating $y = 2x$, $0 \leq x \leq 1$, about the x-axis is

- A π
- B 4π
- C 2π
- D π

Understand It with Pulse | Flag a mistake

8 $\int_{-1}^{2} (x + 2)\, dx$ is

- A 15
- B 9
- C 6
- D 9

Understand It with Pulse | Flag a mistake

9 For y = 2x, the area under the curve from x = 0 to x = 2 is

- A 4
- B 2
- C 8
- D 6

Understand It with Pulse | Flag a mistake

10 If $\int_5^2 f(x)\,dx = -7$, then $\int_2^5 f(x)\,dx$ is

- A -7
- B 7
- C 0
- D 1

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. D
2. B
3. A
4. D
5. C
6. A
7. B
8. A
9. A
10. B

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