



Integration

Chapter: Integral Calculus · Level ★★★ · Time: 30 min

SCORE

___ / 20

Name _____ Class _____ Date _____

AFTER THIS WORKSHEET YOU CAN

- ✓ Understand integration as the reverse of differentiation.
- ✓ Apply the power rule for integration.
- ✓ Integrate sums, differences and constants.
- ✓ Always include the constant of integration, C.

Section A · Concept Check • BEGINNER $4 \times 1 = 4$ _____

- 1 $\int x^4 dx = ?$
- ☐ A. $x^5/5 + C$ ☐ B. $4x^3 + C$ ☐ C. $x^5 + C$ ☐ D. $x^3/3 + C$
- 2 $\int 9 dx = ?$
- ☐ A. $9 + C$ ☐ B. $9x + C$ ☐ C. 0 ☐ D. $x/9 + C$
- 3 Integration is the reverse of:
- ☐ A. multiplication ☐ B. differentiation ☐ C. addition ☐ D. factoring
- 4 $\int x^n dx (n \neq -1) = ?$
- ☐ A. $x^{n+1}/(n+1) + C$ ☐ B. $n \cdot x^{n-1}$ ☐ C. $x^{n-1}/(n-1)$ ☐ D. $x^n + C$

Section B · Problem Solving • INTERMEDIATE $2 + 3 \times 3 = 11$ _____

- 5 $\int x^n dx = \dots\dots\dots (n \neq -1).$
- 6 $\int 9 dx = \dots\dots\dots$
- 7 Find $\int x^4 dx$.
- _____
- 8 Find $\int 9 dx$.
- _____
- 9 Find $\int (6x^2 - 4x + 1) dx$.
- _____

Section C · Challenge • CHALLENGE 5 _____

- 10 Find $\int (x^3 + x) dx$.
- _____

Reflection — the most useful thing I learned: _____

A ___/4 B ___/11 C ___/5 Total ___/20

Teacher's Signature _____

Parent's Signature _____

ANSWER KEY — FOLD OR CUT BEFORE HANDING OUT

1-A 2-B 3-B 4-A | 5 $x^{n+1}/(n+1) + C$ 6 $9x + C$ 7 $x^5/5 + C$ 8 $= 9x + C$ 9 $= 2x^3 - 2x^2 + x + C$ | 10 $= x^4/4 + x^2/2 + C$

