



Name _____ Class _____ Date _____

AFTER THIS WORKSHEET YOU CAN

- ✓ Expand algebraic expressions symbolically.
- ✓ Solve equations exactly.
- ✓ Differentiate symbolically.
- ✓ Integrate symbolically.

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

- 1 `sp.expand((x+3)*(x-3))` returns:
 - ☐ A. $x^{**2} - 9$
 - ☐ B. $x^{**2} + 9$
 - ☐ C. $x^{**2} - 6x - 9$
 - ☐ D. $2x$
- 2 `sp.solve(x**2 - 9, x)` returns:
 - ☐ A. $[-3, 3]$
 - ☐ B. $[3]$
 - ☐ C. $[9]$
 - ☐ D. $[-9, 9]$
- 3 `sp.diff(x**4, x)` returns:
 - ☐ A. $4*x^{**3}$
 - ☐ B. x^{**3}
 - ☐ C. $4*x^{**4}$
 - ☐ D. $x^{**5/5}$
- 4 `sp.integrate(x**2, x)` returns:
 - ☐ A. $x^{**3}/3$
 - ☐ B. $2*x$
 - ☐ C. x^{**3}
 - ☐ D. $3*x^{**3}$

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

- 5 $(x+3)(x-3)$ expands to _____
- 6 `sp.solve(x**2 - 9, x)` = _____
- 7 What does `sp.expand((x+3)*(x-3))` return?

- 8 What does `sp.solve(x**2 - 9, x)` return?

- 9 What does `sp.diff(x**4, x)` return?

Section C · Challenge • CHALLENGE 5 _____

- 10 What does `sp.integrate(x**2, x)` return?

🧠 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-A 3-A 4-A | 5 $x^{**2} - 9$ 6 $[-3, 3]$ 7 $x^{**2} - 9$ 8 $[-3, 3]$ 9 $4*x^{**3}$ | 10 = $x^{**3}/3$