



Name _____ Class _____ Date _____

AFTER THIS WORKSHEET YOU CAN

- ✓ Compute a 2×2 determinant. ✓ Use $\det = ad - bc$. ✓ Relate the determinant to invertibility.
- ✓ Recognise singular matrices.



Section A • Concept Check

• BEGINNER

 $4 \times 1 = 4$ _____

- 1 $\det[[4,1],[2,3]] = ?$
☐ A. 10 ☐ B. 14 ☐ C. 11 ☐ D. 5
- 2 $\det[[5,2],[3,1]] = ?$
☐ A. -1 ☐ B. 1 ☐ C. 11 ☐ D. 7
- 3 $\det[[8,4],[2,1]] = ?$
☐ A. 0 ☐ B. 8 ☐ C. 4 ☐ D. 16
- 4 A matrix with determinant 0 is:
☐ A. invertible ☐ B. not invertible
☐ C. the identity ☐ D. symmetric



Section B • Problem Solving

• INTERMEDIATE

 $2 + 3 \times 3 = 11$ _____

- 5 For $[[a,b],[c,d]]$, the determinant is _____.
- 6 $\det[[4,1],[2,3]] =$ _____.
- 7 Find the determinant of $[[4,1],[2,3]]$.

- 8 Find the determinant of $[[5,2],[3,1]]$.

- 9 Find the determinant of $[[8,4],[2,1]]$.



Section C • Challenge

• CHALLENGE

5 _____

- 10 Is the matrix $[[8,4],[2,1]]$ invertible?

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-B | 5 $ad - bc$ 6 10 7 = 10 8 = -1 9 = 0 | 10 = No, its determinant is 0