

Name _____ Date _____ Pd _____

CYU 1.5.4 Determinants & Inverses with Matrices

Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
2x2 Determinant	1 - 4		
3x3 Determinant		5 - 8	
Inverse Matrices		11 - 12	9 - 10, 13, 14

Evaluate each determinant. Show your work for full credit, but check your answer with the calculator.

1. $\begin{vmatrix} -1 & 2 \\ 1 & -4 \end{vmatrix}$

2. $\begin{vmatrix} 3 & 5 \\ -5 & -2 \end{vmatrix}$

3. $\begin{vmatrix} -4 & 4 \\ -5 & -3 \end{vmatrix}$

4. $\begin{vmatrix} -2 & 3 \\ 0 & 5 \end{vmatrix}$

5. $\begin{vmatrix} -5 & 2 & 1 \\ 1 & 0 & 0 \\ 0 & 4 & 0 \end{vmatrix}$

6. $\begin{vmatrix} -5 & -4 & 1 \\ -3 & 0 & 5 \\ -1 & 0 & 3 \end{vmatrix}$

$$7. \begin{vmatrix} 3 & 3 & 1 \\ -3 & -1 & -3 \\ -4 & -3 & 1 \end{vmatrix}$$

$$8. \begin{vmatrix} -2 & 1 & -2 \\ 0 & 5 & -5 \\ 0 & 2 & -5 \end{vmatrix}$$

Inverses: Find the inverse for each matrix provided, if defined. If undefined, explain in a complete sentence why the inverse does not exist. Show all work for full credit. Check using your calculator.

$$9. \begin{bmatrix} -3 & 1 \\ 9 & -1 \end{bmatrix}$$

$$10. \begin{bmatrix} -3 & -3 \\ -4 & -3 \end{bmatrix}$$

$$11. \begin{bmatrix} -2 & 5 & -2 \\ -2 & 2 & 0 \\ -3 & -2 & 2 \end{bmatrix}$$

$$12. \begin{bmatrix} 1 & 1 & -2 \\ -3 & -2 & 5 \\ -6 & 4 & 4 \end{bmatrix}$$

13. For what value(s) of x does matrix M have an inverse?

$$M = \begin{bmatrix} x & 1 \\ 2 & x+1 \end{bmatrix}$$

14. When does a matrix not have an inverse? Name 2 ways and why.

CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

