

Matrices Quiz Review

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
Dimensions, addresses, naming matrices	14, 15	16 - 20	25
Adding/Subtracting Matrices	8, 9	1	4, 5
Scalar Multiplication with Matrices	10	1	4
Multiplying Matrices	12, 16 - 20	2, 11	3

On the test you will be responsible to complete the test with or without a calculator. The calculator should be used to check and occasionally solve a problem more efficiently. No partial credit will be awarded without proper work shown.

1-3: Perform the following operations. Be sure to be able to do them both by hand and using the calculator!

$$A = \begin{bmatrix} 3 & 1 \\ -5 & 2 \end{bmatrix}$$

$$B = \begin{bmatrix} 3 & -1 \\ -5 & 2 \end{bmatrix}$$

$$C = \begin{bmatrix} -6 & 0 \\ 4 & 3 \end{bmatrix}$$

$$D = \begin{bmatrix} 7 & -2 & 9 \\ -4 & 1 & -8 \end{bmatrix}$$

$$E = \begin{bmatrix} 7 & 2 & 9 \\ 4 & 1 & 8 \end{bmatrix}$$

1. Find $2C - B$

$$\begin{bmatrix} -15 & 1 \\ 13 & 4 \end{bmatrix}$$

2. Find $A \cdot E$

$$\begin{bmatrix} 25 & 7 & 35 \\ -27 & -8 & -29 \end{bmatrix}$$

3. Find B^2

$$\begin{bmatrix} 14 & -5 \\ -25 & 9 \end{bmatrix}$$

4. Find K so that $D - 2K = \begin{bmatrix} 2 & 0 & 3 \\ 0 & 1 & -4 \end{bmatrix}$

$$K = \begin{bmatrix} \frac{5}{2} & -1 & 3 \\ -2 & 0 & -2 \end{bmatrix}$$

5. Solve for x , y and z given:

$$\begin{bmatrix} x^2 & y+z \\ -2 & 1 \end{bmatrix} = \begin{bmatrix} 9 & -7 \\ 2z-y & 1 \end{bmatrix}$$

$$x = \pm 3; y = -4; z = -3$$

6-10: Perform the following operations. Be sure to be able to do them both by hand and using the calculator!

$$A = \begin{bmatrix} 3 & 4 \\ 1 & -2 \\ 0 & -1 \end{bmatrix} \quad B = \begin{bmatrix} 4 & 0 \\ 0 & 4 \end{bmatrix} \quad C = \begin{bmatrix} 1 & -1 \\ 3 & 2 \\ 5 & -1 \end{bmatrix} \quad D = \begin{bmatrix} -2 & 1 & 4 \\ -1 & 0 & 3 \end{bmatrix} \quad E = \begin{bmatrix} 1 & -2 & 3 \\ -5 & 0 & 1 \\ -1 & 4 & 2 \end{bmatrix}$$

6. $A + B$

not possible
 $3 \times 2 \neq 2 \times 2$

7. $C - A$

$$\begin{bmatrix} -2 & -5 \\ 2 & 4 \\ 5 & 0 \end{bmatrix}$$

8. $-2D$

$$\begin{bmatrix} 4 & -2 & -8 \\ 2 & 0 & -6 \end{bmatrix}$$

9. BD

$$\begin{bmatrix} -8 & 4 & 16 \\ -4 & 0 & 12 \end{bmatrix}$$

10. AC

not possible
 $3 \times 2 \neq 3 \times 2$

11. What number is in c_{22} ?

2

12. State the dimensions of AD .

$AD_{3 \times 3}$

13 - 17: Given that $A_{5 \times 2}$, $B_{2 \times 5}$, $C_{1 \times 5}$, and $R_{5 \times 2}$, state what the dimensions of the products would be, if they are defined.

13. AB 5×5	14. CB undefined	15. AR undefined	16. RB 5×5	17. CA 1×2
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18. Solve the matrix for the missing variable.

$$\begin{bmatrix} 4 & 2x+3 \\ 5y-1 & 2 \end{bmatrix} = \begin{bmatrix} 4 & -1 \\ 2y & 2 \end{bmatrix}$$

$$x = -2; y = \frac{1}{3}$$

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.

