



Sunthonphupittaya Secondary School

The Matrix Test

1st Semester

Academic Year 2021

Subject : Addition Mathematics

MA 32201

Mattayom 5/1

Date: 20th August 2021

12.55 -13.50 AM

Duration 55 minutes

Total 20 items.

Score 20

marks.

Name.....

Class 5 /1 No

Directions:

1. Is this an identity matrix?

$$\begin{bmatrix} 1 & 0 & 0 \\ 1 & 0 & 0 \\ 1 & 0 & 0 \end{bmatrix}$$

a) yes

b) no

2. What are the dimensions of matrix K?

$$K = \begin{bmatrix} 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{bmatrix} + \begin{bmatrix} 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{bmatrix}$$

a) 2 by 3

b) 3 by 3

c) 3 by 2

d) 3 by 1

3. Fill in the missing number.

$$\begin{bmatrix} 0 \\ 9 \end{bmatrix} + \begin{bmatrix} -3 \\ 0 \end{bmatrix} = \begin{bmatrix} \boxed{} \\ 9 \end{bmatrix}$$

a) -3

b) 3

c) 0

d) 9

4. Fill in the missing number.

$$9 \begin{bmatrix} 8 & -4 \\ -8 & 9 \end{bmatrix} = \begin{bmatrix} 72 & -36 \\ -72 & \boxed{} \end{bmatrix}$$

a) 18

b) -36

c) 18

d) 81

5. Fill in the missing numbers.

$$7 \begin{bmatrix} 3 & 1 & 0 \\ 0 & -7 & 5 \\ -5 & 3 & 0 \end{bmatrix} = \begin{bmatrix} 21 & 7 & 0 \\ \boxed{} & -49 & 35 \\ -35 & 21 & \boxed{} \end{bmatrix}$$

a) 0 and 7

b) 0 and 0

c) 7 and 0

d) 7 and 21

6. Fill in the missing number.

$$\begin{bmatrix} 3 & 1 \\ 1 & 3 \end{bmatrix} \begin{bmatrix} 2 & 0 \\ 2 & 0 \end{bmatrix} = \begin{bmatrix} \boxed{} & 0 \\ 8 & 0 \end{bmatrix}$$

a) 6

b) 7

c) 8

d) 9

7. Find the determinant of the matrix.

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

a) 0

b) 4

c) 5

d) 10

8. Find the determinant of the matrix.

$$\begin{bmatrix} 9 & 0 \\ 0 & -10 \end{bmatrix}$$

a) 90

b) -90

c) 9

d) -10

9. Find the determinant of the matrix.

$$\begin{bmatrix} 7 & -3 \\ 6 & 7 \end{bmatrix}$$

a) 64

b) 65

c) 66

d) 67

10. Find the determinant of the matrix.

$$\begin{bmatrix} 6 & 2 & 1 \\ 3 & 0 & 1 \\ 8 & 2 & -3 \end{bmatrix}$$

- a) 25 b) 26 c) 27 d) 28

11. What is dimension of Matrix A ?

$$\text{Given } A = \begin{bmatrix} 6 & 2 & 9 \\ -3 & 4 & 1 \\ 8 & 3 & -3 \end{bmatrix}$$

- a) 2 by 2 b) 2 by 3 c) 3 by 3 d) 3 by 2

12. What are the value of a_{12} , a_{23} , a_{33} ?

$$\text{Given } A = \begin{bmatrix} 6 & 2 & 9 \\ -3 & 4 & 1 \\ 8 & 3 & -3 \end{bmatrix}$$

- a) 2 ,4,3 b) -3,4,1 c) 2,1,-3 d) -3,3,-3

13. What is the value of $a_{12} + a_{23}$?

$$\text{Given } A = \begin{bmatrix} 6 & 2 & 9 \\ -3 & 4 & 1 \\ 8 & 3 & -3 \end{bmatrix}$$

- a) 0 b) 1 c) 2 d) 3

For question 14-15 Given $\begin{bmatrix} -4x & 6 \\ 0 & -3 \end{bmatrix} = \begin{bmatrix} 8 & 6 \\ 0 & y + 2 \end{bmatrix}$

14. What is the value of x ?

- a) -3 b) 3 c) -2 d) 2

15. What is the value of y ?

- a) 2 b) -2 c) 1 d) -1

16. Given $A = \begin{bmatrix} 1 & 2 \\ 4 & 1 \\ 1 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -2 & 5 \\ 2 & 3 & 4 \end{bmatrix}$ Find AB

a) $\begin{bmatrix} 5 & 4 & 13 \\ 6 & -5 & 24 \\ 3 & 1 & 9 \end{bmatrix}$

b) $\begin{bmatrix} 5 & 8 & 13 \\ 8 & -5 & 24 \\ 3 & 5 & 9 \end{bmatrix}$

c) $\begin{bmatrix} 3 & 6 & 8 \\ 4 & -5 & 9 \end{bmatrix}$

d) $\begin{bmatrix} -3 & -6 & 8 \\ 5 & 24 & 9 \end{bmatrix}$

17. Given $A = \begin{bmatrix} 6 & 2 & 9 \\ 3 & 4 & 1 \\ 8 & 3 & 5 \end{bmatrix}$ What is Transpose of Matrix A

a) $\begin{bmatrix} 6 & 2 & 9 \\ 3 & 4 & 1 \\ 8 & 3 & 5 \end{bmatrix}$

b) $\begin{bmatrix} 6 & 3 & 8 \\ 2 & 4 & 3 \\ 9 & 1 & 5 \end{bmatrix}$

c) $\begin{bmatrix} 9 & 1 & 5 \\ 2 & 4 & 3 \\ 6 & 3 & 8 \end{bmatrix}$

d) $\begin{bmatrix} 8 & 3 & 5 \\ 3 & 4 & 1 \\ 6 & 2 & 9 \end{bmatrix}$

18. Find the inverse of Matrix A $\begin{bmatrix} 1 & 0 \\ 0 & 2 \end{bmatrix}$?

a) $\begin{bmatrix} 1 & 0 \\ 0 & \frac{1}{2} \end{bmatrix}$

b) $\begin{bmatrix} -\frac{1}{2} & 1 \\ 2 & \frac{1}{2} \end{bmatrix}$

c) $\begin{bmatrix} 1 & \frac{1}{2} \\ 2 & 0 \end{bmatrix}$

d) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

19. Solve using augmented matrices.

$$x = 9$$

$$7x + 8y = -17$$

a) (-10,9)

b) (-9,1)

c) (9,-10)

d) (-1,9)

20. Given $A = \begin{bmatrix} 2 & 3 & 5 \\ 1 & 0 & 1 \\ 2 & -1 & 0 \end{bmatrix}$ What is M_{31} of Matrix A

a) 1

b) 3

c) 4

d) 8