Worksheet time: 8mins

Instructor name: Teacher Zar Chi

Date

1. What is a Matrix?

   a) An equation of over 5 numbers or symbols

   b) A set of numbers in rows and columns

   c) A method of finding the n^{th} value of a series

   d) A complicated number system

2. What is the name of each entry of a matrix?

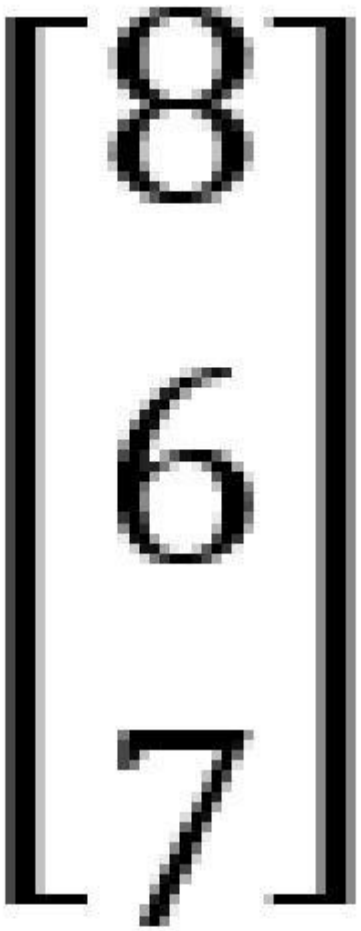
   a) Dimension

   b) Element

   c) Numbers

   d) Row

3.



Name the order of this matrix.

a) 3

b) 3x1

c) 1

d) 1x3

4. $\begin{bmatrix} 2 & 5 & 4 & -5 & 15 & 24 \\ 3 & 7 & 1 & 19 & 6 & 16 \end{bmatrix}$

Name the order of this matrix.

a) 2x6

b) 6x2

c) 12

d) 36

5. How many columns are in a 5 x 4 matrix?

a) 5
b) 20
c) 9
d) 4

6. $$\mathbf{R} = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9.01 \end{bmatrix}$$

In Matrix R (pictured) what element is r_{23}?

a) 9.01
b) 1
c) 8
d) 6

7. $$\begin{pmatrix} 1 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 5 \end{pmatrix}$$

Classify the matrix

a) Square matrix, Diagonal matrix
b) Square matrix, triangular matrix
c) Triangular matrix, Diagonal matrix
d) Square matrix, Identity matrix

8. You can multiply a 2X3 matrix by which matrix?

a) 2X12
b) 3X12
c) 2X3
d) 2X2

9. How many rows are in a 7 x 3 matrix?

a) 21
b) 10
c) 7
d) 3

10. Given matrices A & B:

A is a (4x33) matrix

B is a (33x1) matrix

What are the dimensions of the product of A times B?

a) 4x33
b) 33x1
c) 4x1
d) Matrix does not exist

11. $\begin{bmatrix} 4 & 5 \\ 1 & -2 \end{bmatrix} + \begin{bmatrix} 7 & 3 \\ -5 & 4 \end{bmatrix} =$

Add

a) -3 2
-4 -6
b) 11 8
-4 2
c) 10 8
-6 2
d) 3 2
-6 -6

12. $\begin{bmatrix} -2 \\ 0 \\ 3 \\ 6 \end{bmatrix} - \begin{bmatrix} 7 \\ -8 \\ 0 \\ 4 \end{bmatrix}$

Subtract

a) -9
8
3
2

b) 5
-8
3
10

c) -5
8
3
2

d) -5
-8
3
10

13. $5\begin{bmatrix} -4 & 3 & -2 \\ 6 & -1 & 0 \end{bmatrix}$

Multiply

a) 1 8 3
11 4 5

b) -20 15 -10
30 -5 0

c) 20 15 -10
30 -5 0

d) 20 -15 10
-30 5 0

14. $\begin{bmatrix} 10 & 5 \\ 2 & -4 \\ -8 & 3 \end{bmatrix} + \begin{bmatrix} 2 & 5 & 4 \\ 3 & 7 & 1 \end{bmatrix}$

Can the operation be performed?

a) Yes
b) Sometimes
c) only Ms. Jones knows
d) No

15. $5\begin{bmatrix} 3 & 4 \\ -9 & -1 \end{bmatrix} = \begin{bmatrix} m & p \\ n & q \end{bmatrix}$

find the value of m, n, p and q.

a) m=20, n=-5, p=15, q=-45
b) m=-5, n=20, p=-45, q=15
c) m=15, n = -45, p=20, q=-5
d) m=8, n=9, p=-4, q=4

16. What must be true in order to ADD two matrices?

a) The size must be equal.
b) They must be square.
c) The column of the 1st must equal the row of the 2nd.
d) The determinant can't equal 0.

17. Determine whether the matrix product A_{3x2} B_{2x5} is defined. If so, what are the dimensions of the product.

a) yes , 3 x 5
b) yes , 2 x 3
c) no
d) yes, 2 x 5

18. $\begin{pmatrix} x-2 & 3 \\ -2 & 3y \end{pmatrix} = \begin{pmatrix} 1 & 3 \\ -2 & 15 \end{pmatrix}$

Find the value of x and y if

a) x=3, y=3
b) x=2 , y=5
c) x=3, y=5
d) x=5, y=3

19.

$$A = \begin{bmatrix} 2 & 5 \\ 7 & 0 \end{bmatrix}$$

$$B = \begin{bmatrix} 6 & 5 \\ 1 & 1 \end{bmatrix}$$

find: B x A

a) 17 15
42 35

b) 47 30
9 5

c) 47 9
30 5

d) not possible because rows do not match columns

20. Which of the following is NOT a square matrix?

a) Triangular matrix

b) Identity matrix

c) zero matrix

d) Diagonal matrix