

Warmup

$$1. \begin{bmatrix} -1 + 4 = \underline{\hspace{2cm}} & -2 + -3 = \underline{\hspace{2cm}} \\ 1 + 3 = \underline{\hspace{2cm}} & 8 + -3 = \underline{\hspace{2cm}} \end{bmatrix}$$

3. Solve for d

$$\frac{5}{d} = \frac{30}{42}$$

2. How many columns are shown on the structure?



I. Sets

Set: A collection of elements. (A group of things that belong together)

The items in the set are called **elements**

The elements are written inside curly brackets { }

Example: The set of colors could be

Colors = {red, green, blue}

A set with zero elements is called the empty set, or the null set. The symbol for the empty set is $\emptyset$

4. Write the numbers that are included in the set of even numbers from 1 to 10. (Enter the numbers from smallest to largest.)

5. Write the numbers that are included in the set of odd numbers from 1 to 10. (Enter the numbers from smallest to largest.)

6. The symbol placed around a set, or group of items is _____.

7. Match the following:

The set of Integers _____

The set of Whole Numbers _____

The set of Natural Numbers _____

A. {1,2,3,4,5,...}

B. {0,1,2,3,...}

C. {...,-2,-1,0,1,2...}

II. Matrices

The number of dessert sold each month		
	August	September
Anna's Sweets	150	350
Delicious Desserts	25	400

Columns
(vertically)

$$\begin{bmatrix} 150 & 350 \\ 25 & 400 \end{bmatrix} \quad \begin{matrix} \text{Row} \\ \text{(horizontally)} \end{matrix}$$

Each number in a matrix is called an element.

Determine the dimension of each matrix. (Number of Rows x Number of Columns)

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

$$\begin{bmatrix} 1 & 7 & 6 \\ 5 & 9 & 5 \\ 7 & 8 & 9 \end{bmatrix}$$

$$\begin{bmatrix} -5 \\ 8 \end{bmatrix}$$

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

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

III. Addition with Matrices

Matrices can only be added if they have the same dimensions.

To find the sum of matrices add the corresponding elements.

The sum of matrices of different dimensions is undefined.

$$A = \begin{bmatrix} 2 & -4 \\ 6 & 3 \end{bmatrix} \quad B = \begin{bmatrix} 3 & 4 \\ 2 & -5 \end{bmatrix} \quad A+B = \begin{bmatrix} & \\ & \end{bmatrix}$$

Add the following Matrices

$$C = \begin{bmatrix} 1 & -2 \\ 3 & 4 \\ -5 & 6 \end{bmatrix} \quad D = \begin{bmatrix} 4 & 9 \\ 1 & 3 \\ 7 & -6 \end{bmatrix}$$
$$C+D = \begin{bmatrix} & \\ & \\ & \end{bmatrix}$$

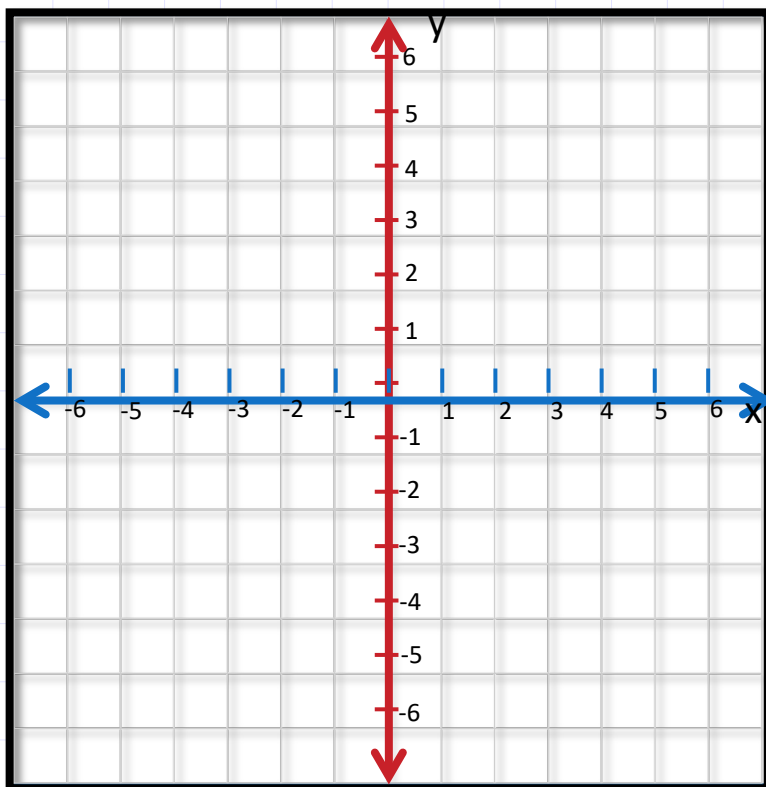
$$T = \begin{bmatrix} -5 \\ -8 \end{bmatrix}$$
$$V = \begin{bmatrix} 4 \\ -7 \end{bmatrix}$$
$$T+V = \begin{bmatrix} & \\ & \end{bmatrix}$$

$$M = \begin{bmatrix} -6 & 4 & -3 \end{bmatrix}$$
$$N = \begin{bmatrix} 7 & -3 & -8 \end{bmatrix}$$
$$M+N =$$
$$C+T =$$

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IV. Practice

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21 is not on the computer. Use this space to start planning your key chain. Try to draw in 3-dimensions.