

Warmup

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

3. Solve for d

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

2. How many columns are shown on the structure?



- I. Sets
- II. Matrices
- III. Addition with Matrices

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. $\{1,2,3,4,5,\dots\}$

B. $\{0,1,2,3,\dots\}$

C. $\{\dots,-2,-1,0,1,2,\dots\}$

II. Matrices

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

Columns
(vertically)

$$\begin{bmatrix} 150 & 350 \\ 25 & 400 \end{bmatrix}$$

Row
(horizontally)

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

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

$$C + D = \begin{bmatrix} & \\ & \\ & \end{bmatrix}$$

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

$$V = \begin{bmatrix} 4 \\ -7 \end{bmatrix}$$

$$T + V = \begin{bmatrix} & \\ & \end{bmatrix}$$

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

$$N = \begin{bmatrix} 7 & -3 & -8 \end{bmatrix}$$

$$M + N =$$

$$C + T =$$

[illegible]