

Find a basis and the dimension for the solution space of the following system of linear equations.

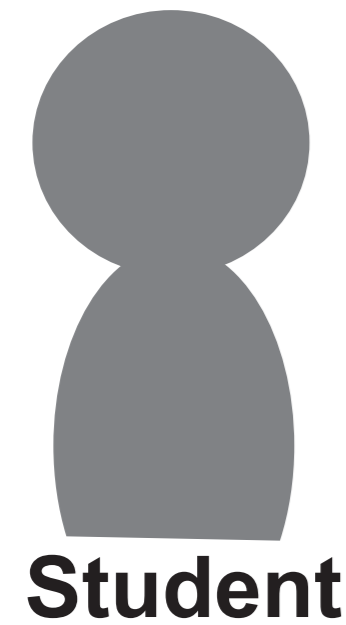
$$\begin{pmatrix} 1 & 2 & 3 \\ 2 & 4 & 6 \\ 3 & 6 & 9 \end{pmatrix} \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$$

### Check List

- 1) #Basis=Dim?
- 2) Appropriate Vectors in Basis?
  - No zero vector?
  - Inside the space?
  - Linearly independent?
- 3) Correct Dim?

$$\text{Basis} = \left\{ \begin{pmatrix} 1 \\ -2 \\ 1 \end{pmatrix} \right\}, \text{Dim} = 1$$

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Student

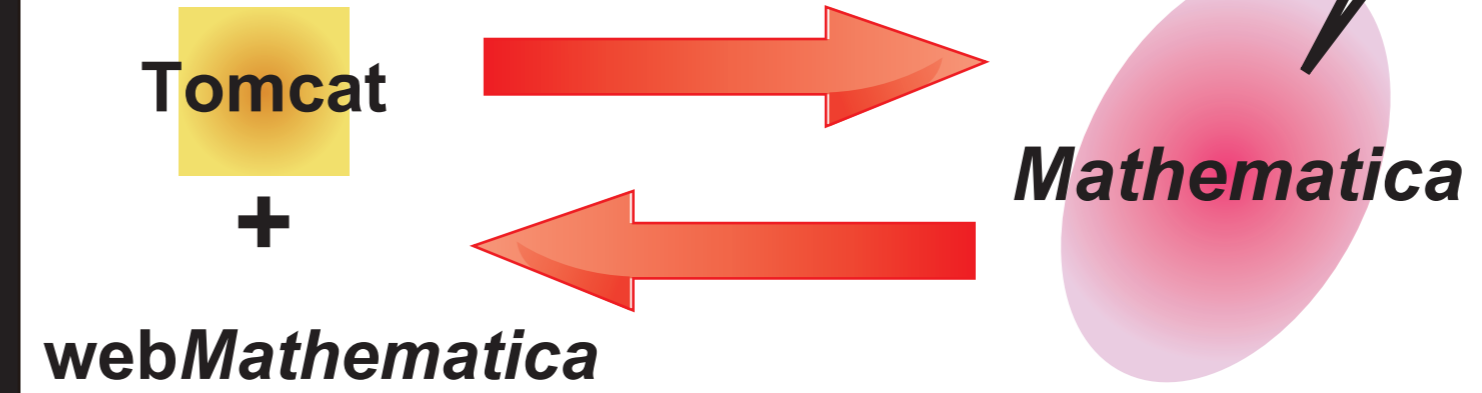


"Dim is incorrect."

Basis?  $\begin{pmatrix} 1 \\ -2 \\ 1 \end{pmatrix}$  ? ?  
Dimension=1?



Web-based Learning/Assessment System



Database

