



1. In this quiz, you will check if some simple collection of vectors are linearly independent or not.

1 / 1  
points

Are the following set of vectors linearly independent?

$$\mathbf{a} = \begin{bmatrix} 1 \\ 1 \end{bmatrix} \text{ and } \mathbf{b} = \begin{bmatrix} 2 \\ 1 \end{bmatrix}.$$

☒ Yes

**Correct**

These vectors are linearly independent as one is not a scalar multiple of the other.

☐ No



2. Are the following set of vectors linearly independent?

1 / 1  
points

$$\mathbf{a} = \begin{bmatrix} 1 \\ 1 \end{bmatrix} \text{ and } \mathbf{b} = \begin{bmatrix} 2 \\ 2 \end{bmatrix}.$$

☐ Yes

☒ No

**Correct**

These vectors are linearly dependent as one is a scalar multiple of the other.



3. Are the following set of vectors linearly independent?

1 / 1  
points

$$\mathbf{a} = \begin{bmatrix} 1 \\ 2 \\ 0 \end{bmatrix} \text{ and } \mathbf{b} = \begin{bmatrix} -2 \\ 1 \\ 0 \end{bmatrix}.$$

☒ Yes

**Correct**

These vectors are linearly independent as one is not a scalar multiple of the other.

☐ No



4. Are the following set of vectors linearly independent?

1 / 1  
points

$$\mathbf{a} = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}, \mathbf{b} = \begin{bmatrix} 1 \\ 1 \\ 0 \end{bmatrix} \text{ and } \mathbf{c} = \begin{bmatrix} 1 \\ 0 \\ 1 \end{bmatrix}$$

☒ Yes

**Correct**

These vectors are linearly independent as one can not be written as a linear sum of the other two.

☐ No



5. Are the following set of vectors linearly independent?

1 / 1  
points

$$\mathbf{a} = \begin{bmatrix} 1 \\ 0 \\ 1 \end{bmatrix}, \mathbf{b} = \begin{bmatrix} 2 \\ -1 \\ 1 \end{bmatrix} \text{ and } \mathbf{c} = \begin{bmatrix} -3 \\ 1 \\ -2 \end{bmatrix}.$$

☐ Yes

☒ No

**Correct**

Indeed, one of the vectors can be written as a linear sum of the other two.