

Ţ <u>Help</u>

sandipan_dey ~

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☆ Course / Week 1: Vectors in Linear Algebra / 1.3 Simple Vector Operations

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1.3.1 Equality (=), Assignment (:=), and Copy

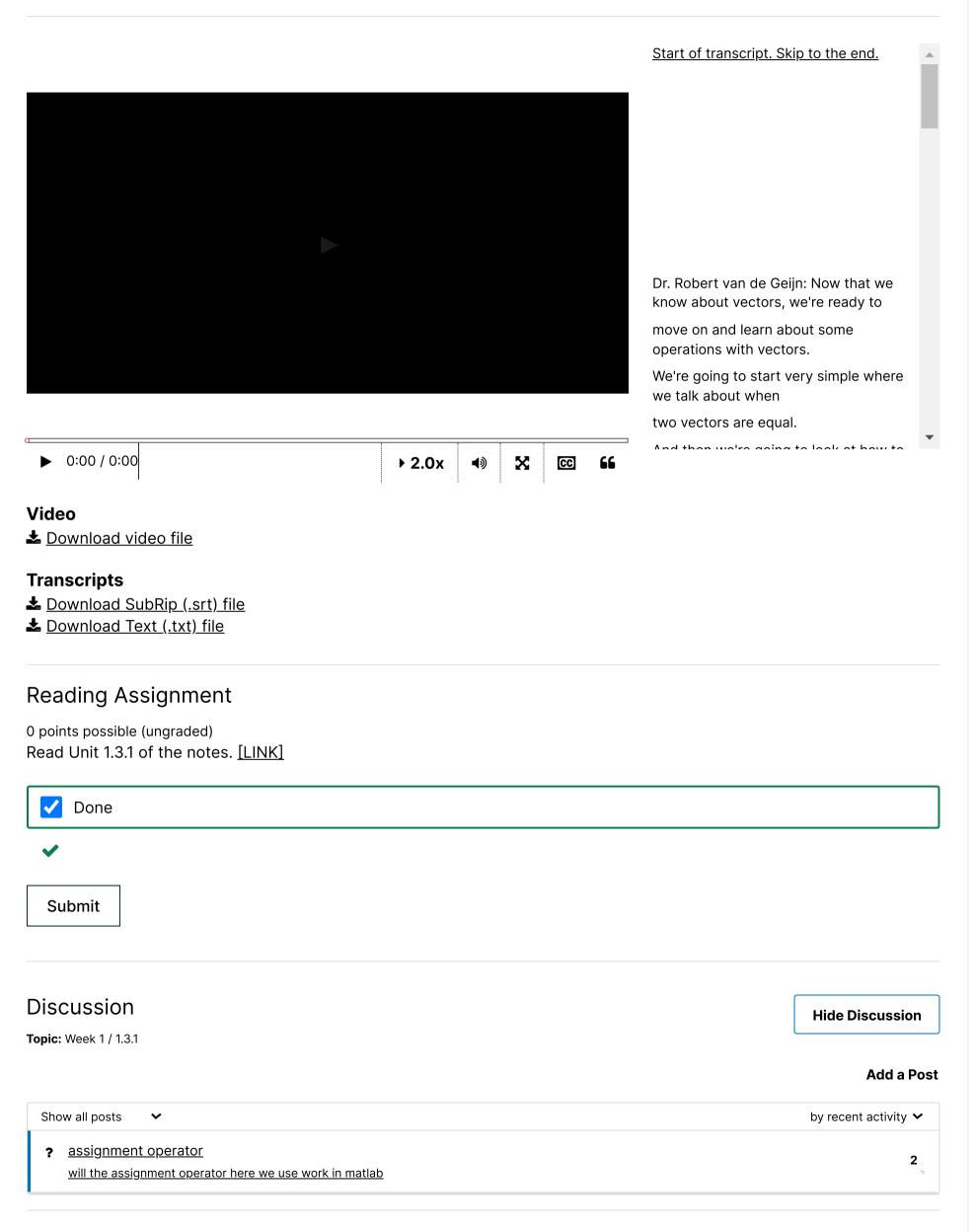
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■ Calculator

Week 1 due Oct 5, 2023 03:12 IST Completed

1.3.1 Equality (=), Assignment (:=), and Copy



Homework 1.3.1.1

2/2 points (graded)

Decide if the two vectors are equal.

The vector represented geometrically in \mathbb{R}^2 by an arrow from point (-1,2) to point (0,0) and the vector represented geometrically in \mathbb{R}^2 by an arrow from point (1,-2) to point (2,-1) are equal.

✓ Answer: FALSE **FALSE**

The vector from (-1,2) to point (0,0) is given by $\begin{pmatrix} 0-(-1) \\ 0-2 \end{pmatrix} = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$

Similarly, the vector from (1,-2) to point (2,-1) is given by $\begin{pmatrix} 2-1 \\ -1-(-2) \end{pmatrix} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$

They are not equal!

The vector represented geometrically in \mathbb{R}^3 by an arrow from point (1,-1,2) to point (0,0,0) and the vector represented geometrically in \mathbb{R}^3 by an arrow from point (1,1,-2) to point (0,2,-4) are equal.

TRUE Answer: TRUE

The vector from (1,-1,2) to point (0,0,0) is given by $\begin{pmatrix} 0-1 \\ 0-(-1) \\ 0-2 \end{pmatrix} = \begin{pmatrix} -1 \\ 1 \\ -2 \end{pmatrix}$

Similarly, the vector from (1,1,-2) to point (0,2,-4) is given by $\begin{pmatrix} 0-1 \\ 2-1 \\ -4-(-2) \end{pmatrix} = \begin{pmatrix} -1 \\ 1 \\ -2 \end{pmatrix}$

They are equal!

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