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## 9.2.4 What is Going On?

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Week 9 due Dec 9, 2023 18:12 IST   Completed

## 9.2.4 What is Going On?

### Video

Start of transcript. Skip to the end.

Dr. Robert van de Geijn: OK, so let's explain what was going on in the last unit. We had a linear system that could be represented as  $Ax = b$ . We had a solution to that system. We're going to call it the specific solution

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### Video

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## Reading Assignment

0 points possible (ungraded)

Read Unit 9.2.4 of the notes. [\[LINK\]](#)

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Calculator

Homework 9.2.4.1

1/1 point (graded)

Let  $Ax_s = b$ ,  $Ax_{n_0} = 0$  and  $Ax_{n_1} = 0$ . Also, let  $\beta_0, \beta_1 \in \mathbb{R}$ . Then  $A(x_s + \beta_0 x_{n_0} + \beta_1 x_{n_1}) = b$ .

Always

✔ Answer: Always

$$\begin{aligned} &A(x_s + \beta_0 x_{n_0} + \beta_1 x_{n_1}) \\ &= \quad < \text{Distribute } A > \\ &Ax_s + A(\beta_0 x_{n_0}) + A(\beta_1 x_{n_1}) \\ &= \quad < \text{Constant can be brought out } > \\ &Ax_s + \beta_0 Ax_{n_0} + \beta_1 Ax_{n_1} \\ &= \quad < Ax_s = b \text{ and } Ax_{n_0} = Ax_{n_1} = 0 > \\ &b + 0 + 0 \\ &= \quad < \text{algebra } > \\ &b. \end{aligned}$$

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