

Math 2210Q-004 Applied Linear Algebra
E-Mail Assignments
on the readings in the textbook

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Submit by E-Mail by 7:00 am on the date due (before class)
to dgross@math.uconn.edu.

Due for Thursday, March 26

Section 4.4 Coordinate Systems

To read: Read section 4.4

To Do: The homework from sections 4.3

Be sure sure to understand: The section “A Graphical Interpretation of Coordinates”; Theorem 8; Examples 5, 6 and 7.

Email Subject Line: 2210EA 03/26 YourLastName

Questions:

1. True or False: for a basis $\mathcal{B} = \{\vec{b}_1, \vec{b}_2, \vec{b}_3\}$ of \mathbb{R}^3 , the matrix $P_{\mathcal{B}}$ converts vectors \vec{x} expressed in the standard basis to the same vector $[\vec{x}]_{\mathcal{B}}$, only expressed in terms of the \mathcal{B} basis; i.e., $[\vec{x}]_{\mathcal{B}} = P_{\mathcal{B}} \cdot \vec{x}$
 2. For the basis $\mathcal{E} = \{1, t, t^2\}$ of \mathbb{P}_2 , and the polynomial $\vec{p}(t) = 1 - 3t^2$, find the coordinate vector $[\vec{p}]_{\mathcal{E}}$.
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