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Topics

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$$\begin{bmatrix} \cos 90^\circ & \sin 90^\circ \\ -\sin 90^\circ & \cos 90^\circ \end{bmatrix} \begin{bmatrix} a_1 \\ a_2 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \end{bmatrix}$$

4. [Tensor Notation \(Basic\)](#)
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Summary

The following pages cover the basic math principles used in continuum mechanics. Topics include [vector calculus](#), linear algebra, [tensor notation](#), and [coordinate transformations](#). Finally, [cylindrical coordinate systems](#) are reviewed to prepare for applications involving tires, and [Fourier Transforms](#) are reviewed to prepare for dynamic material testing and analysis because of the periodic loading of all points on a tire as it rolls.

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