

Name:

**Problem 1:** *Compute the following dot product*

$$\begin{pmatrix} 2 \\ -3 \\ 7 \end{pmatrix} \cdot \begin{pmatrix} -4 \\ 2 \\ 2 \end{pmatrix}$$

*You must show your work to receive credit.*

**Solution:**

$$\begin{pmatrix} 2 \\ -3 \\ 7 \end{pmatrix} \cdot \begin{pmatrix} -4 \\ 2 \\ 2 \end{pmatrix} = (2) \cdot (-4) + (-3) \cdot (2) + 7 \cdot (-4) = -8 - 6 + 14 = 0$$