Clicker Slides Math 35100

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Question 1: If $v = \begin{pmatrix} 1 \\ -2 \\ 1 \\ 3 \end{pmatrix}$ and $w = \begin{pmatrix} 0 \\ 1 \\ 2 \\ -1 \end{pmatrix}$, then $\langle v, w \rangle =$ _____

A. 1 **B.** 2 **C.** 3 **D.** 4 **E.** 5

F. -1 **G.** -2 **H.** -3 **I.** -4 **J.** 0

Question 2: Suppose u, v, and w are an orthogonal set of vectors in $\mathbb{R}^5$ so that $\|u\| = 1$, $\|v\| = 2$, and $\|w\| = \sqrt{3}$.

Then $\langle 2u - v, 3u + 2v + w \rangle =$ _____

A. 1 **B.** 2 **C.** 3 **D.** 4 **E.** 5

F. -1 **G.** -2 **H.** -3 **I.** -4 **J.** 0

Question 2: Suppose u and v are vectors in $\mathbb{R}^4$ so that $\|u\| = 1$, $\|v\| = \sqrt{5}$, and $\langle u, v \rangle = -1$.

Then $\langle 2u - v, 3u - 2v \rangle =$ _____

A. 1 **B.** 2 **C.** 3 **D.** 4 **E.** 5

F. -1 **G.** -2 **H.** -3 **I.** -4 **J.** 0