

[8] 1a.) Show that $T((x_1, x_2)) = (x_1, x_1 + x_2, 3x_1 - 4x_2)$ is linear by finding a matrix A such that $T(x) = Ax$.

Answer 1a.) $A =$ _____,

[3] 1b.) The domain of T is _____.

[3] 1c.) The codomain of T is _____.

[3] 1d.) Is T one-to-one? _____

[3] 1e.) Is T onto? _____

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