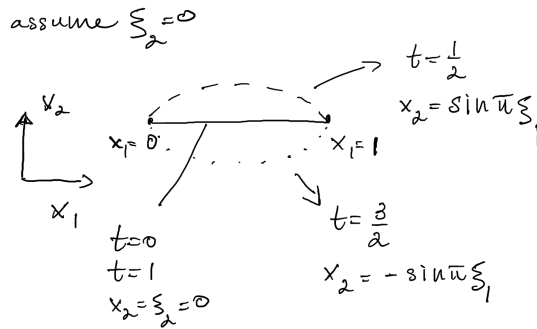


Short answers to ACSE-2 Assessment November 2020

- (1) (a) A counterclockwise rotation of 30° around x_2 axis and lengthening by factor of 2 of any components originally in x_1 direction. (b) It is not.

- (2) (a)



- (b) Material $\mathbf{v} = (0, \pi \cos \pi t \sin \pi \xi_1, 0)$, $\mathbf{a} = (0, -\pi^2 \sin \pi t \sin \pi \xi_1, 0)$,
Spatial: $\mathbf{v} = (0, \pi \cos \pi t \sin \pi x_1, 0)$, $\mathbf{a} = (0, -\pi^2 \sin \pi t \sin \pi x_1, 0)$

- (3) (a)

$$\boldsymbol{\sigma} = k \begin{bmatrix} 2\mu & \mu x_3 & 2\mu(x_1 + x_3) \\ \mu x_3 & 0 & \mu x_1 \\ 2\mu(x_1 + x_3) & \mu x_1 & -2\mu \end{bmatrix}$$

- (b) $A=-1, B=1, C=0$