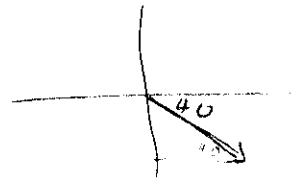
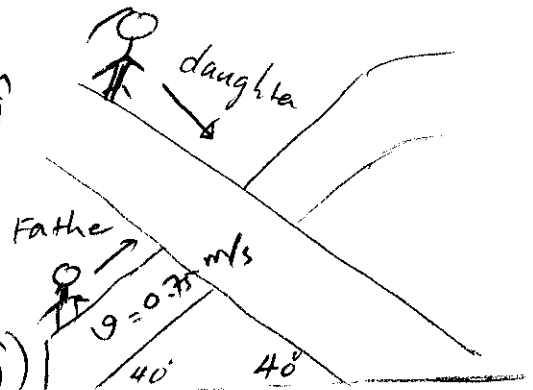


Escalator

$$\begin{aligned}\vec{v}_{FG} &= (0.75 \cos 40^\circ) \hat{i} + 0.75 \sin 40^\circ \hat{j} \\ &= 0.57 \hat{i} + 0.48 \hat{j}\end{aligned}$$

$$\begin{aligned}\vec{v}_{DG} &= (0.75 \cos 40^\circ \hat{i} - 0.75 \sin 40^\circ \hat{j}) \\ &= 0.57 \hat{i} - 0.48 \hat{j}\end{aligned}$$



$$\vec{v}_{FD} = \vec{v}_{FG} + \vec{v}_{GD}$$

$$= \vec{v}_{FG} - \vec{v}_{DG}$$

$$= 0 + 0.96 \hat{j} = (0.96 \hat{j}) \frac{\text{m}}{\text{s}}$$