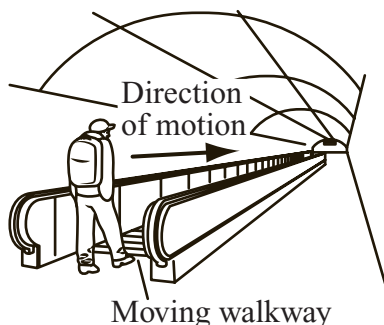


A moving walkway is like a sidewalk that moves at a constant speed. It is used to transport people from one location to another within a large building, such as an airport. The diagram shows a moving walkway.



The table shows data about two people on the same moving walkway. Person 1 steps onto the walkway from rest and stands on it. Person 2 steps onto the walkway while already walking and continues to walk.

Person	Mass (kg)	Distance Moved on Walkway (m)	Time on Walkway (s)
1	88	120	240
2	52	120	70

- a. Using the data for person 1, calculate the speed of the walkway. Show your calculations and include units in your answer.

Stepping onto the walkway, person 1 accelerates from an initial speed of 0 m/s to the speed of the walkway in 0.6 s.

- b. Calculate the acceleration of person 1. Show your calculations and include units in your answer.
- c. Calculate the net force that accelerated person 1. Show your calculations and include units in your answer.

Person 1 and person 2 have the same acceleration as they step onto the moving walkway.

- d. Identify whether the net force acting on person 1 is greater than, less than, or equal to the net force acting on person 2. Explain your answer.