Question:

why displacement is positive?

Answer:

A displacement is the shortest distance from the initial to the final position of a point. Therefore, displacement vector can be mathematically defined as the difference between the final and initial position vectors:

$$\vec{s} = \overrightarrow{R_2} - \overrightarrow{R_1}$$

Usually by displacement we understand absolute value of the change in position. For example, if something is standing on a yard stick, and it moves from 5 to 3 meters, we say displacement equals -2 meters. Unlike distance displacement **can** be negative.