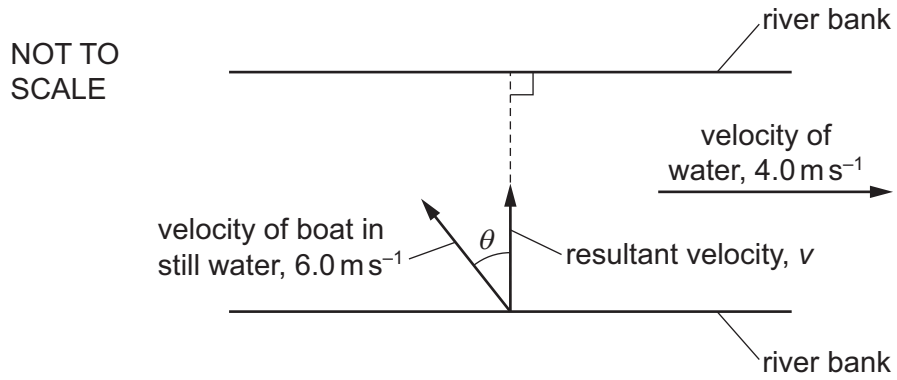
4 A boat is crossing a river in which the water is moving at a speed of $4.0\,m\,s^{-1}$ from left to right.



In still water, the speed of the boat is $6.0\,m\,s^{-1}$. The boat is directed at an angle θ to a line perpendicular to the river banks. The resultant velocity v of the boat is in a direction perpendicular to the river banks.

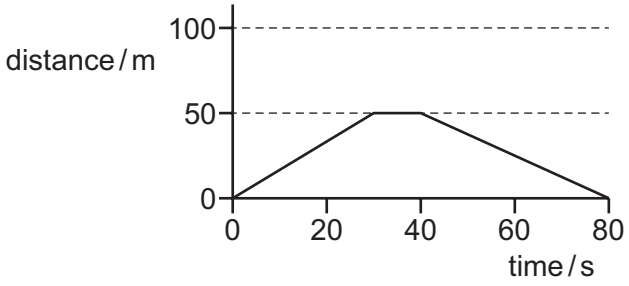
What are the values of θ and v?

	θ / °	v / m s^{-1}
A	42	4.5
B	42	7.2
C	48	4.5
D	48	7.2

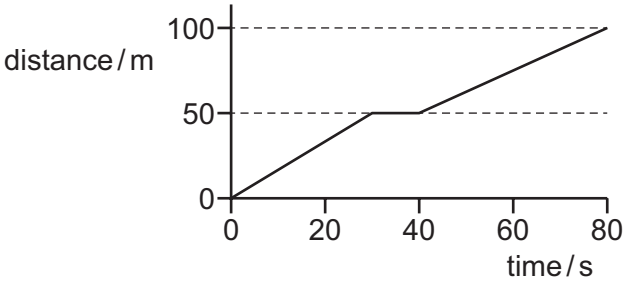
5 A student walks at a constant speed for a distance of 50 m in a time of 40 s. The student rests for a time of 10 s and then walks back to the starting point at a constant speed in a time of 30 s.

What is the distance–time graph for the motion of the student?

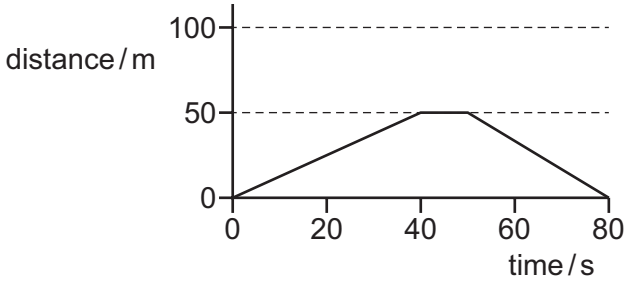
A



B



C



D