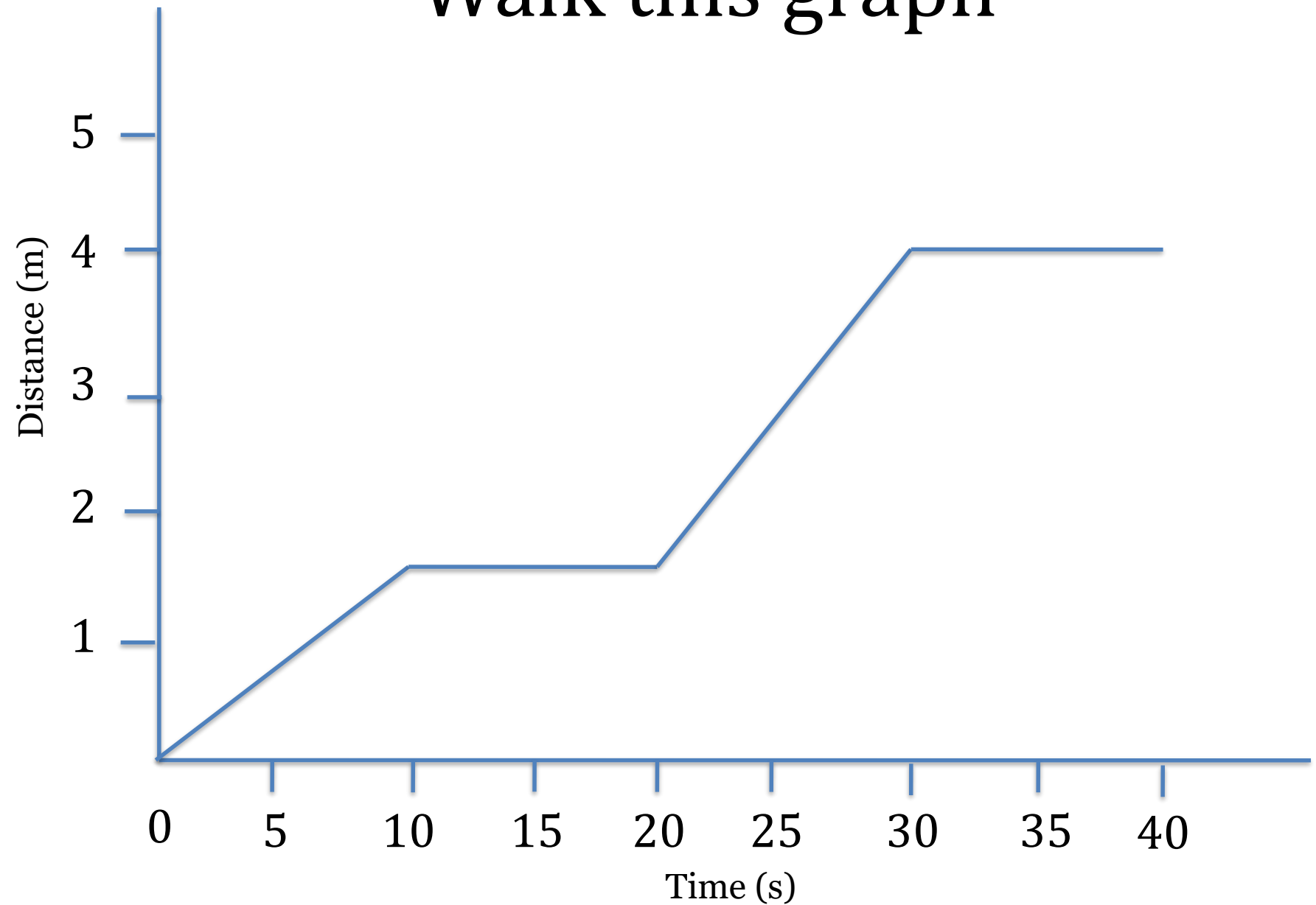
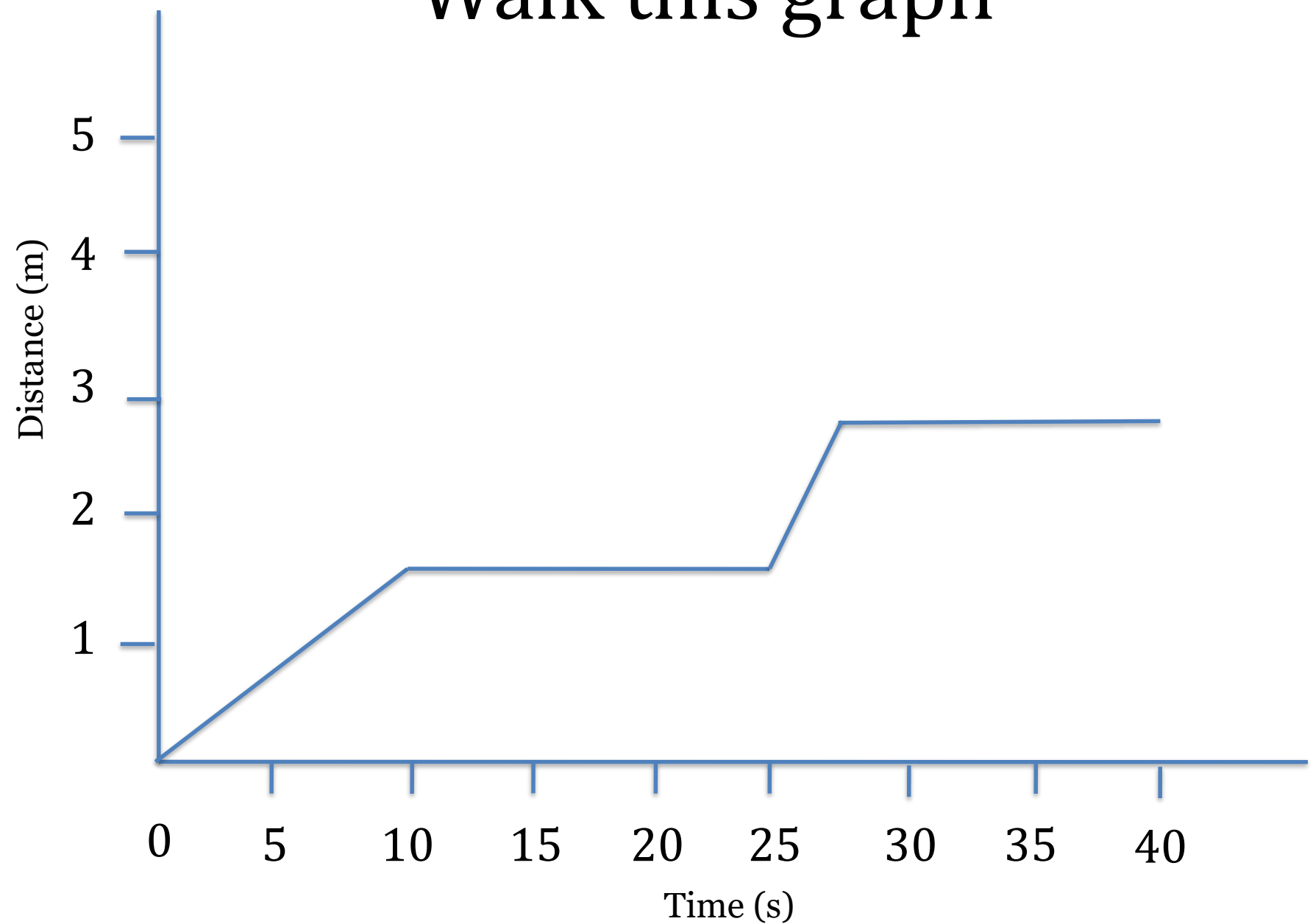


Topic	Distance-time graphs and speed	Level	Key Stage 3 (or any course for students aged 11-14)
Outcomes	<ol style="list-style-type: none"> 1. Students can use and draw a distance time graph 2. Students know units of time, distance and speed 3. Students use units of speed to understand how to calculate speed from a distance-time graph 		
Information for teachers	<p>Chose one student to walk the graph, put a timer on the board and a tape measure on the ground. Now repeat, but this time talk through each section of the graph. Now chose a different student to walk through the second graph.</p> <p>Give students time to sketch distance-time graphs for different activities. Remind them that no numbers are required on the axes. Finally, ask students to draw a distance-time graph for their journey into school. Ask specific students to draw them on the whiteboard and provide feedback.</p> <p>Model how to calculate speed from a distance-time graph. Focus on how the units of speed help us.</p>		

Walk this graph



Walk this graph



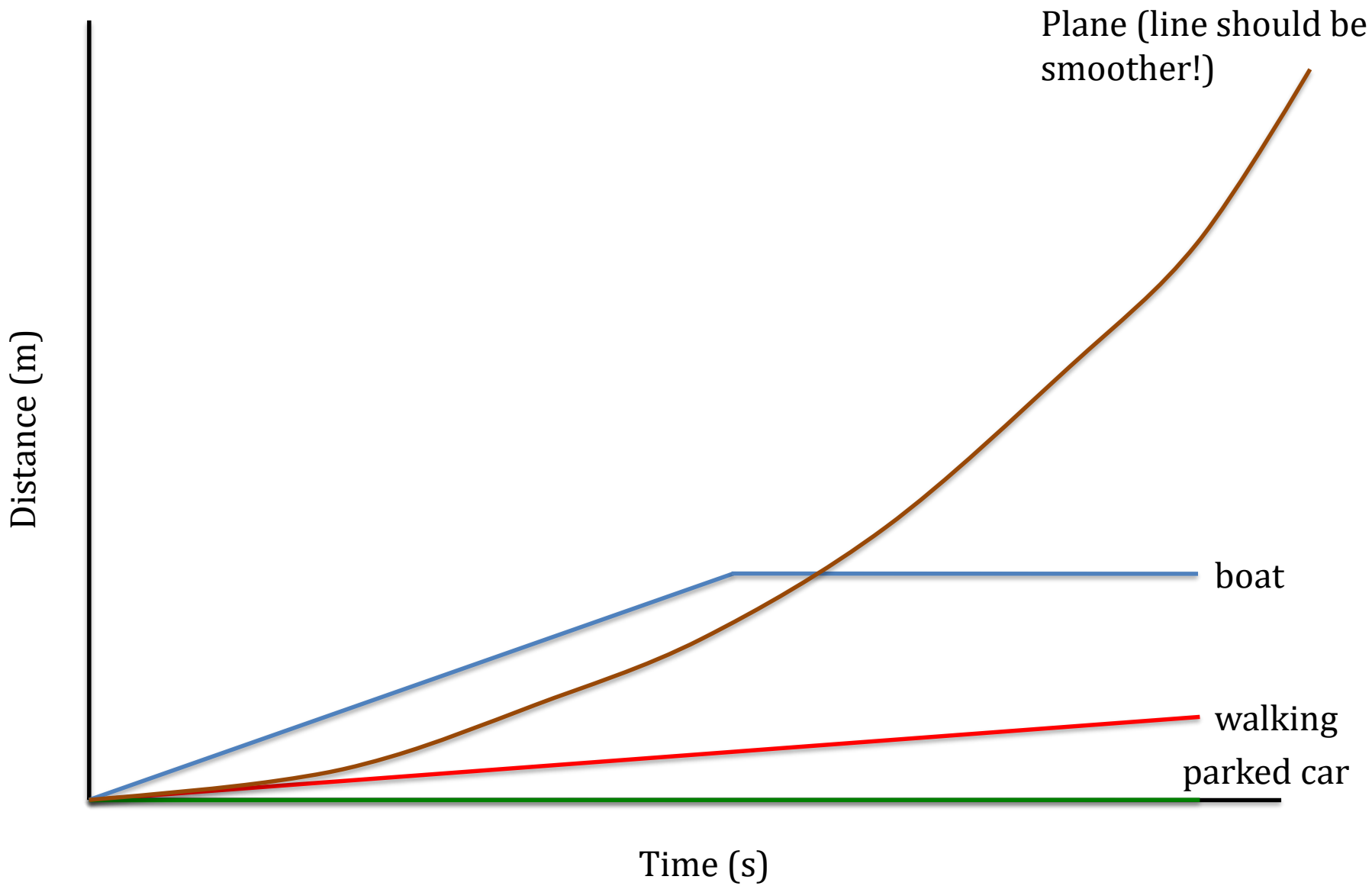
1. Assume each object starts at rest.

Sketch on the same axes (no units required) a distance-time graph to show:

- I. a man walking at a constant speed
- II. a boat floating down a river at a constant speed that gets stuck on a rock
- III. a parked car
- IV. a plane moving down the runway before take off

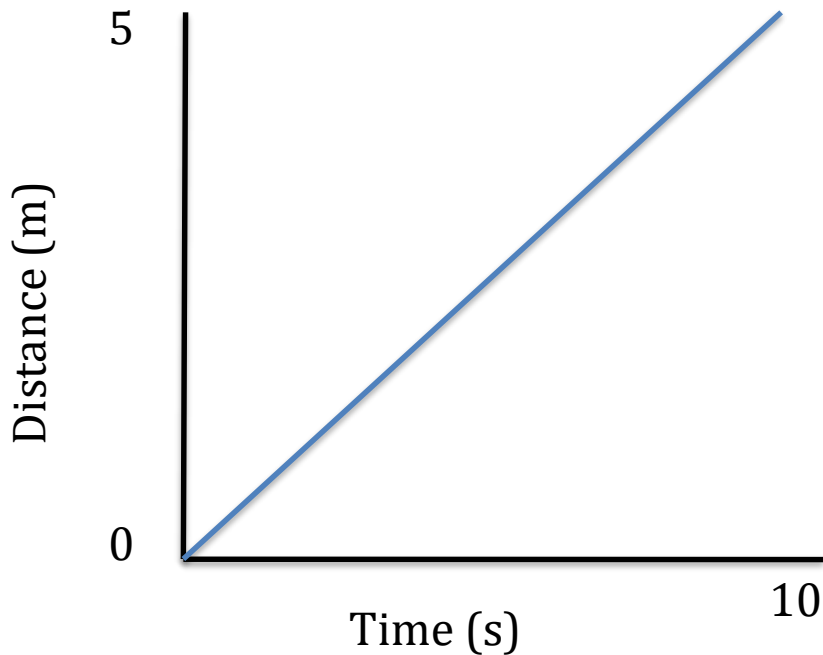
2. Now draw a distance time graph of your journey into school today. Include numbered axes so you can give *approximate* times and distances.

3. How can we use a distance-time graph to calculate the speed of an object?



The unit of speed is m/s

- m/s
- metres *per* second
- metres *for every* second



Example:

Car travels 5 metres for every 10 seconds

So, 0.5 metres *for every* second

So speed is 0.5 m/s

Calculate speed for each section

