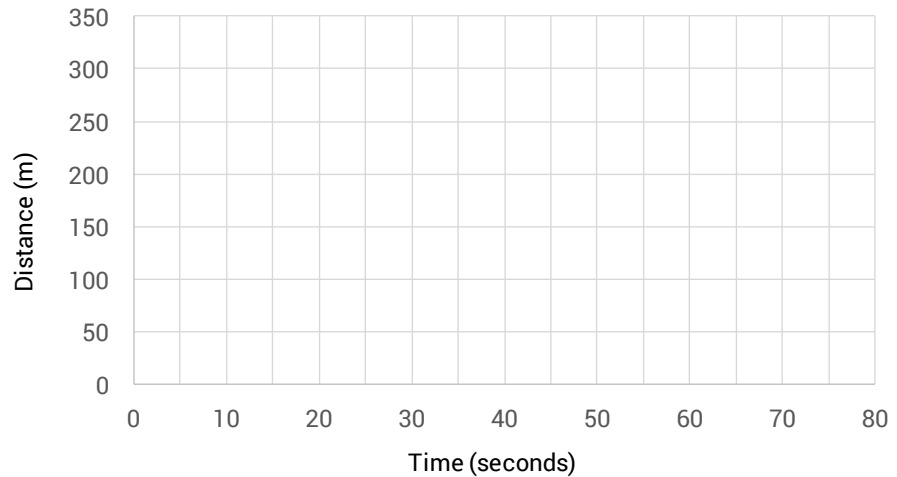


0	1
---	---

Zara is preparing for an athletics competition. She first sprints 150 m in 25 seconds, stops to do some stretches for 15 seconds, then walks a further 100 m to the finish line in a time of 40 seconds.

0	1	.	1
---	---	---	---

Using the axes below, draw a distance-time graph for her entire journey.



[4 marks]

0	1	.	2
---	---	---	---

Calculate the speed at which she **sprints** during the above journey.

Answer = _____ m/s

[2 marks]

0	1	.	3
---	---	---	---

Calculate the speed at which she **walks** during the above journey.

Answer = _____ m/s

[2 marks]

0	1	.	4
---	---	---	---

Calculate her **average speed** for the entire journey.

Answer = _____ m/s

[2 marks]

0	1	.	5
---	---	---	---

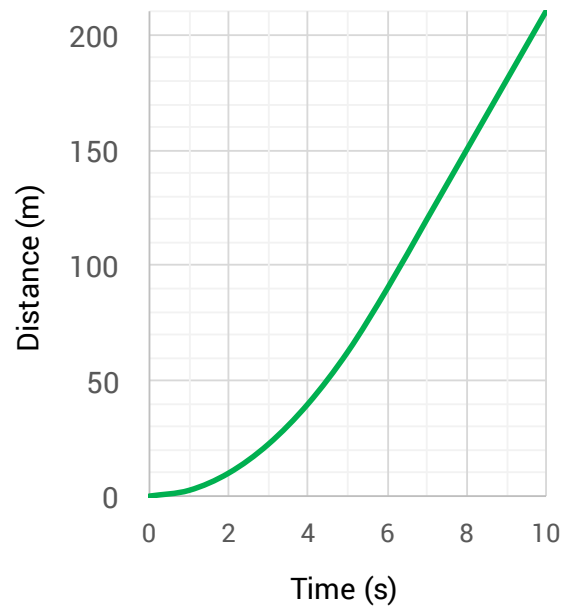
Before Zara started to sprint, she was standing beside her friend, Ravi. Ravi remains at rest for the first 40 seconds of her journey, but as soon as she starts walking towards the finish line, he tries to catch up by jogging towards her at a steady speed of 5 m/s.

Sketch his distance-time graph using the above axes.

[3 marks]

0	2
---	---

The below graph shows how the distance travelled by a car changes over the first 10 seconds of its motion.



0	2	.	1
---	---	---	---

Describe the motion of the car over the first 10 seconds of its motion.

[3 marks]

0	2	.	2
---	---	---	---

Calculate the speed at which the car is travelling at $t = 4$ seconds.

[3 marks]

0	2	.	3
---	---	---	---

Show that the car is travelling at 30 m/s from $t = 6$ seconds onwards.

[3 marks]

0	2	.	4
---	---	---	---

If the car was to continue travelling at this speed, how long would it take it to cover a distance of 81 km?

Time = _____ minutes

[3 marks]