Speed, Distance & Time: Medium Practice Paper 6 Answers

Q#	Answer	Explanation
1	C	In the first hour the line climbs from 0 km to 20 km, so she covered 20 kilometres in one hour. That is a speed of 20 ÷ 1 = 20 km/h.
2	E	Divide each distance by its time: 120 ÷ 2 = 60, then 135 ÷ 1.5 = 90, 200 ÷ 4 = 50 and 210 ÷ 3 = 70 kilometres each hour. The van is fastest at 90 km/h.
3	D	Each kilometre costs 5 minutes, so eight of them take 5 × 8 = 40 minutes.
4	D	Change the first into kilometres per hour. In an hour it covers 15 × 3600 = 54000 metres, which is 54 km, so 15 m/s is 54 km/h. That beats 50 km/h.
5	E	A steady walk covers about a kilometre every twelve minutes, so roughly 5 km in an hour. A speed of 25 km/h would be a fast cyclist and 0.5 km/h slower than a crawl.
6	A	Time is distance divided by speed, so the crossing takes 36 ÷ 24 = 1.5 hours. Half an hour is 30 minutes, so that is 1 hour 30 minutes.
7	D	From 09:00 to 10:30 is 1 hour and 30 minutes, which is 1.5 hours, and the train covers 120 km. Its average speed is 120 ÷ 1.5 = 80 km/h.
8	A	Ten minutes is a sixth of an hour, because 60 ÷ 10 = 6. So she covers a sixth of 18 km, which is 18 ÷ 6 = 3 kilometres.
9	C	Taking out the stop leaves 3 hours 30 minutes of driving, which is 3.5 hours. The moving speed is therefore 210 ÷ 3.5 = 60 km/h, faster than the 52.5 km/h worked out from the whole four hours.
10	B	The two halves add up to 24 + 36 = 60 kilometres, and the two half-hours make one hour. So the average speed is 60 km in 1 hour, which is 60 km/h.
11	B	The gap between them grows by 10 − 8 = 2 kilometres every hour. Half an hour opens up half of that, which is 1 kilometre.

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12	B	All four ran the same distance, so the fastest is the one who took the least time. Cal's 55 seconds is the shortest, so he was quickest.
13	A	Five minutes is 5 × 60 = 300 seconds, so the tortoise covers 8 × 300 = 2400 centimetres. There are 100 cm in a metre, so that is 2,400 ÷ 100 = 24 metres.
14	C	The driving takes 150 ÷ 60 = 2.5 hours, which is 2 hours 30 minutes, and the stop adds 25 minutes, making 2 hours 55 minutes. From 10:20 to 13:15 is 2 hours and 55 minutes.
15	E	While the car is still, its distance does not change and the line runs flat. That happens between the 1 hour and 2 hour marks, where the distance stays at 60 km.

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