

17. Towns M and N were 410 km apart. At 9:15 a.m., Jeffrey set off from town M for town N at an average speed of 80 km/h. 45 minutes later, Marcus set off from town N for town M at an average speed of 120 km/h. At what time did they pass each other?

11:45 a.m.

18. At 1:05 p.m., a van started driving along a straight expressway at a constant speed of 60 km/h. At 1:35 p.m., a car moved off from the same place as the van at a constant speed. After travelling for 210 km, the car caught up with the van. If the van and the car continued travelling at their constant speeds, how far apart would they be at 5:50 p.m.?

$12\frac{1}{2}$ km

19. At 3:40 p.m., a truck left city A for city B at a uniform speed of 51 mi/h. At 4:20 p.m., a minibus also left city A for city B and travelled at a uniform speed of 68 mi/h.

(a) At what time did the minibus overtake the truck? $6:20 \text{ p.m.}$
(b) At what time after that would the two vehicles be 51 km apart?

$9:20 \text{ p.m.}$

20. Town X and town Y were 270 km apart. A car started from town X towards town Y at a uniform speed of 60 km/h while a motorcycle started from town Y to town X at a uniform speed of 90 km/h. Both the car and the motorcycle started their journeys at 5:15 a.m.

(a) At what time did they pass each other? $7:03 \text{ a.m.}$
(b) How far away was the car from town Y when it passed the motorcycle?

162 km

21. Town A and town B were 150 km apart. A truck started from town A towards town B at 3:40 p.m. A car also started from town A towards town B half an hour later. The car overtook the truck at 5:40 p.m. when both were 30 km away from town B. If both the car and truck were travelling at constant speeds,

(a) find the speed of the car. ~~70 km/h~~ 80 km/h
(b) how much longer does it take the truck to reach town B than the car?

$\frac{5}{8} \text{ h}$