Topic 4 Rate and Speed

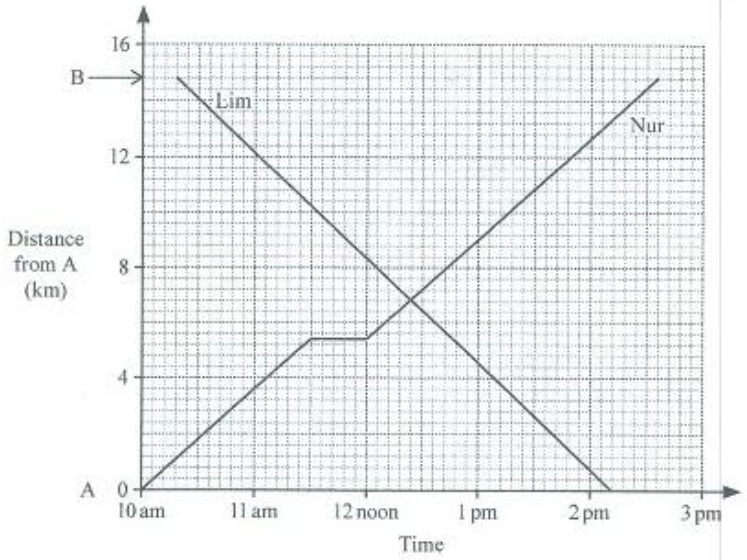
1. (a) A car uses 15.75 litres of fuel to travel a distance of 250 km.
Giving your answer in litres per 100 km, calculate the fuel consumption of the car. [2]
(b) Anne's car has a fuel consumption of 8.2 litres per 100 km.
(i) Calculate the distance she can travel on a full tank of 60 litres. [1]
(ii) Petrol costs $1.65 per litre.
Calculate how much, correct to the nearest cent, the petrol will cost Anne for a journey of 120 km. [2]
(N2011/P2/Q2a)

2. An aeroplane flies a distance of 5572 km from New York to London. The average speed of the aeroplane is 725 km/h.
Calculate the flight time, in hours and minutes, correct to the nearest minute. [3]
(N2013/P1/Q8)

3. The average volume of water flowing over a third waterfall is 1.82×10^4 litres per second.
Calculate the volume of water flowing over the waterfall in one hour.
Give your answer in standard form, correct to 2 significant figures. [2]
(N2013/P1/Q21c)

4. A train 220 m long passes through a tunnel 4.8 km long.
The average speed of the train is 31 km/h.
(a) Change 31 km/h into m/s. [1]
(b) Calculate the time taken for the train to pass completely through the tunnel.
Give your answer in minutes and seconds, to the nearest second. [3]
(N2014/P1/Q18)

5.



The distance-time graph shows the journeys for two people, Nur and Lim, between two villages, A and B.

(a) Find Nur's speed for the first hour of her journey. [1]

(b) (i) Find the time when Nur and Lim pass each other. [1]

(ii) How far are they from village B when they pass each other? [1]

(c) Lim jogs back to village B at 8 km/h.
Change 8 km/h into metres per second. [1]

(N2019/P1/Q17)