Answer on Question #44266, Physics, Mechanics | Kinematics | Dynamics

A car moves at constant 60km for 1km and 40km/hr next 1km what is the average speed of car

Solution:

Average speed is equal to $v = \dfrac{S}{t}$, where S is total distance and t is total time of motion.

The total time is equal to sum of two times (first when car is moving with speed $60\dfrac{km}{h}$ and second when the car is moving with speed $40\dfrac{km}{h}$). Thus, $t = t_1 + t_2 = \left(\dfrac{1}{60} + \dfrac{1}{40}\right)h$.

Total distance is $S = 1km + 1km = 2km$.

Then average speed S/t is $47.6\dfrac{km}{h}$

Answer: $47.6\dfrac{km}{h}$