

①

$d = 200 \text{ km}$

$\overline{S} = ?$

$\frac{1}{2}d$ $v_1 = 20 \frac{\text{km}}{\text{hr}}$ $\frac{1}{2}d$ $v_2 = 80 \frac{\text{km}}{\text{hr}}$

$\overline{S} = 50 \frac{\text{km}}{\text{hr}} ?$ $\overline{S} = \frac{\text{TOTAL } d}{\text{TOTAL } t}$

$S = \frac{d}{t} \Rightarrow t = \frac{d}{S}$ $\left[\frac{\text{m}}{\frac{\text{m}}{\text{s}}} \right] = \left[\frac{\text{m} \cancel{\text{s}}}{\cancel{\text{m}}} \right] = [\text{s}]$

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$$\overline{S} = \frac{\text{TOTAL } d}{t_1 + t_2}$$

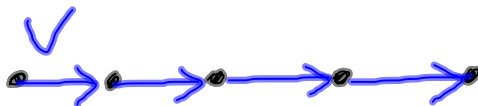
$$\overline{S} = \frac{200 \text{ km}}{\frac{100}{20} + \frac{100}{80}}$$

$$\boxed{\overline{S} = 32 \frac{\text{km}}{\text{hr}}}$$

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MOTION DIAGRAM.

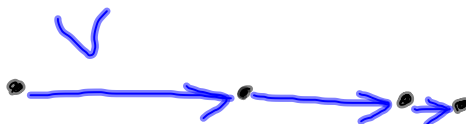
$V = \text{CONST.}$



SPEEDING UP



SLOWING DOWN



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