Answer on Question #45189, Physics, Mechanics | Kinematics | Dynamics

A person travels along straight road for first t/3 time with speed V1 and for next 2t/3 time with speed V2. Then average velocity(V) of person was

(1) V = V1+2V2/3

(2) 1/v = 1/3V1+2/3V2

(3) V = 1/3* square root (2V1V2)

(4) V = square root (3V2/2V1)

Solution.

The average velocity is determined by the formula:

$$V_{average} = \frac{S}{t}$$

Where S is a full distance covered by person and t is a full time of trip.

$$S = S_1 + S_2 = V_1 \cdot \frac{t}{3} + V_2 \cdot \frac{2t}{3}$$

So:

$$V_{average} = \frac{V_1 \cdot \frac{t}{3} + V_2 \cdot \frac{2t}{3}}{t} = \frac{V_1}{3} + \frac{2V_2}{3} = \frac{V_1 + 2V_2}{3}$$

Answer: looks like the answer (1) is right but there is no brackets:

V = (V1+2V2)/3 is correct.

Other items are completely wrong.