

t(minutes)	0	2	6	7	10
v(t) (meters per minute)	0	100	140	-120	50

Johanna jogs along a straight path. For $0 \leq t \leq 10$, Johanna's velocity is given by a differential function v . Selected values of $v(t)$, where t is measured in minutes and $v(t)$ is measured in meters per minute, are given in the table above.

A) Using correct units, explain the meaning of the definite integral $\frac{1}{10} \int_0^{10} v(t) dt$ in the context of the problem. Approximate the value of $\frac{1}{10} \int_0^{10} v(t) dt$ using a right Riemann sum with four sub-intervals indicated in the table.

B) Based on the model $v(t) = t^3 - 5t^2 + 100$, find the average velocity (Average Value) during the interval $0 \leq t \leq 2$.