



The graph displays velocity as a function of time. According to the conditions of task, train moved from zero velocity to velocity  $20 \frac{m}{s}$  in 200 seconds (this is displayed by first line). Then, the train has not changed the velocity for 500 seconds (horizontal line on graph from 200 to 700 seconds), and stopped in 100 seconds (graph from  $20 \frac{m}{s}$  to  $0 \frac{m}{s}$  from 700 seconds to 800 seconds).

Acceleration on each time interval is calculated as  $a = \frac{\Delta v}{\Delta t}$ , and retardation is  $r = -a$ .

For  $0 \leq t \leq 200$ ,  $a = \frac{1}{10} \frac{m}{s^2}$ , retardation  $r = \frac{-1}{10} \frac{m}{s^2}$ .

For  $200 \leq t \leq 700$ ,  $a = r = 0$ .

For  $700 \leq t \leq 800$ ,  $a = \frac{-1}{5} \frac{m}{s^2}$ ,  $r = \frac{1}{5} \frac{m}{s^2}$ .