

Hint for the homework problem 2.3#29

In problem 2.3:29(b) you know the velocity of a rocket at any point along the path $x \in [0, 240,000]$. The unusual feature of the problem is that you know $v(x)$, not $v(t)$. You need to compute the total time it takes the rocket to go from $x = 0$ to $x = 240,000$.

Note that $\frac{1}{v}$ tells you how much time it takes to cover certain distance. So, if the velocity of the rocket was constant along the whole path it would take it $\frac{240,000}{v}$ hours. When the velocity is not constant you should think about using

$$\int_{?}^{?} ? \, d?$$

Your job is to figure out what to put in place of question marks.