

Calculus AB

4-4

Velocity Lesson

What do we use derivatives to find?

What do we use integrals, $\int_a^b f(x) dx$, to find?

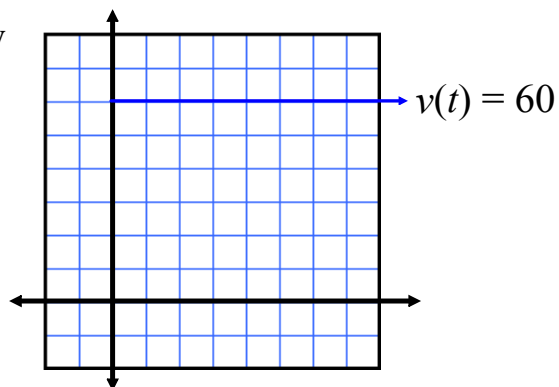
$$\frac{d(\text{position})}{dt} =$$

$$\frac{d(\text{velocity})}{dt} =$$

$$\int_{\text{start}}^{\text{end}} (\text{velocity}) dt =$$

$$\int_{\text{start}}^{\text{end}} (\text{acceleration}) dt =$$

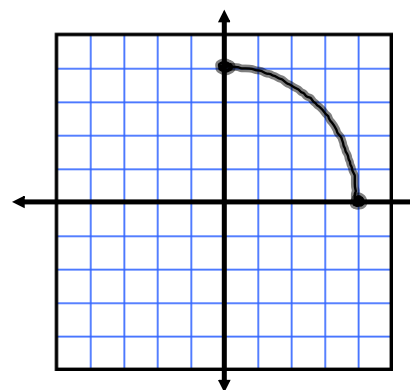
If a car drives at a constant rate of 60 m/h, how much distance has the car traveled in 5 hours?



Evaluate

$$\int_0^5 v(t) dt$$

The following graph represents $v(t)$. Write an integral to evaluate the total distance traveled. Find the total distance traveled (use geometry).



Assignment:
Velocity Worksheet