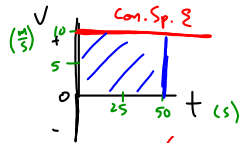


10.4 V - t graphs - Area under the line

To find distance travelled you find the area under the line or the area between the line and the t axis. This area can be negative or positive.



How far does it go in 50s?

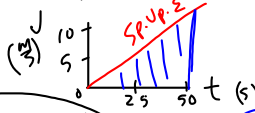
$$d = ? \quad v = \frac{d}{t}$$

$$d = vt$$

$$\text{area} = b \times h$$

$$= (50s)(10 \frac{m}{s})$$

$$= 500m$$



How far does it go in 50s?

$$\text{area} = \frac{1}{2} bh$$

$$= \frac{1}{2} (50s)(10 \frac{m}{s})$$

$$= 250m$$

$$d = v_{\text{ave}} t$$

$$= \left(\frac{v_i + v_f}{2} \right) t = \left(\frac{0 + 10}{2} \right) (50)$$

$$= 250m$$

Mar 12-9:17 AM