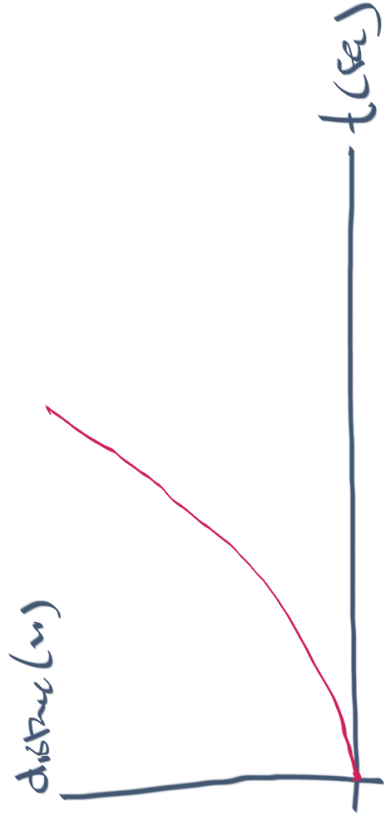
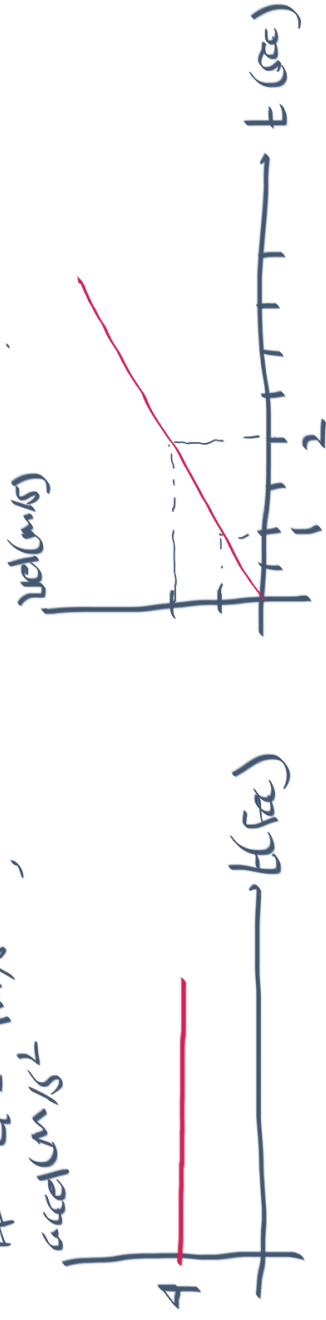


3) If $a = 4 \text{ m/s}^2$, its motion will look like this.



What is the time it takes to travel distance? Use $d = \frac{1}{2} a t^2$

$$2 \text{ m} = \frac{1}{2} (4 \text{ m/s}^2) t_2^2 \Rightarrow t_2 = \sqrt{\frac{4}{4}} = 1 \text{ sec.}$$

$$8 \text{ m} = \frac{1}{2} (4 \text{ m/s}^2) t_8^2 \Rightarrow t_8 = \sqrt{\frac{16}{4}} = 2 \text{ sec.}$$

So the question becomes: what is the average velocity between $t = 1$ and $t = 2$ seconds?

$$V_{\text{avg}} = \frac{v_1 + v_2}{2} = \frac{8 \text{ m/s} + 4 \text{ m/s}}{2} = \boxed{6 \text{ m/s}}$$