

3.2 → B

3.7

$$v_0 = 0$$

$$\alpha = 6 \text{ m/s}^2$$

$$\Delta x = ?$$

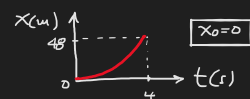
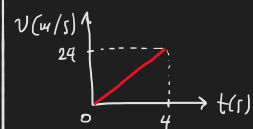
$$v = ?$$

$$t = 4 \text{ sec}$$

ΕΟΕκ $x \in v_0$:

$$v = \alpha \cdot t = 6 \cdot 4 = 24 \text{ m/s}$$

$$\Delta x = \frac{1}{2} \alpha t^2 = \frac{1}{2} \cdot 6 \cdot 4^2 = 3 \cdot 16 = 48 \text{ m}$$



3.8

$$v_0 = 20 \text{ m/s}$$

$$\alpha = 2 \text{ m/s}^2$$

$$\Delta x = ?$$

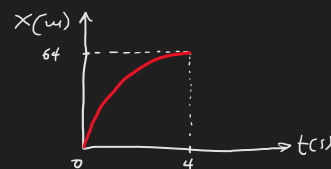
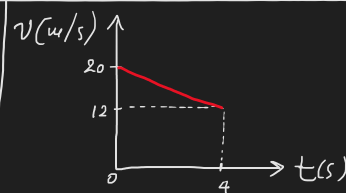
$$v = ?$$

$$\Delta t = 4 \text{ sec}$$

ΕΟΕκ $v \in v_0$:

$$v = v_0 - \alpha t = 20 - 2 \cdot 4 = 20 - 8 = 12 \text{ m/s}$$

$$\Delta x = v_0 t - \frac{1}{2} \alpha t^2 = 20 \cdot 4 - \frac{1}{2} \cdot 2 \cdot 4^2 = 80 - 16 = 64 \text{ m}$$



3.9

$$v_0 = 6 \text{ m/s}$$

$$\alpha = 4 \text{ m/s}^2$$

$$v = ?$$

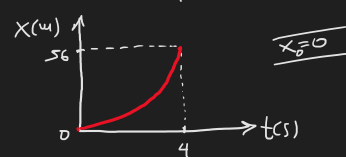
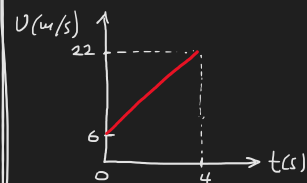
$$\Delta x = ?$$

$$\Delta t = 4 \text{ sec}$$

ΕΟΕκ $v \in v_0$:

$$v = v_0 + \alpha t = 6 + 4 \cdot 4 = 6 + 16 = 22 \text{ m/s}$$

$$\Delta x = v_0 t + \frac{1}{2} \alpha t^2 = 6 \cdot 4 + \frac{1}{2} \cdot 4 \cdot 4^2 = 24 + 32 = 56 \text{ m}$$



3.5

$$\alpha = \frac{\Delta v}{\Delta t} = \frac{8 - 10}{4 - 0} = \frac{-2}{4} = -0.5 \text{ m/s}^2$$

$$\Delta x = v_0 t + \frac{1}{2} \alpha t^2$$

$$\Delta x = v_0 t - \frac{1}{2} |\alpha| t^2$$

$$\Delta x = E + B = \frac{(6+8) \cdot 4}{2} =$$

$$= \frac{(8+10) \cdot 4}{2} = 18 \cdot 2 =$$

$$= 36 \text{ m}$$

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