

CORREZIONE COMPITO OTTOBRE

$$1) a = \cos t \quad v_i = 0$$

$$s_4 = ? \quad t = 4 \text{ s}$$

Svolgimento:

- moto uniformemente accelerato per $t_i = 0 \rightarrow v_i = 0 \rightarrow s_0 = 4 \text{ m}$

$$s = \frac{1}{2} a t^2 + v_i t + s_0$$

$$s = \frac{1}{2} a t^2 + s_0 \rightarrow s = \frac{1}{2} a t^2 + 4 \quad (*)$$

per $t = 2 \text{ s} \rightarrow s = 16 \text{ m}$ sostituiamo questi valori in

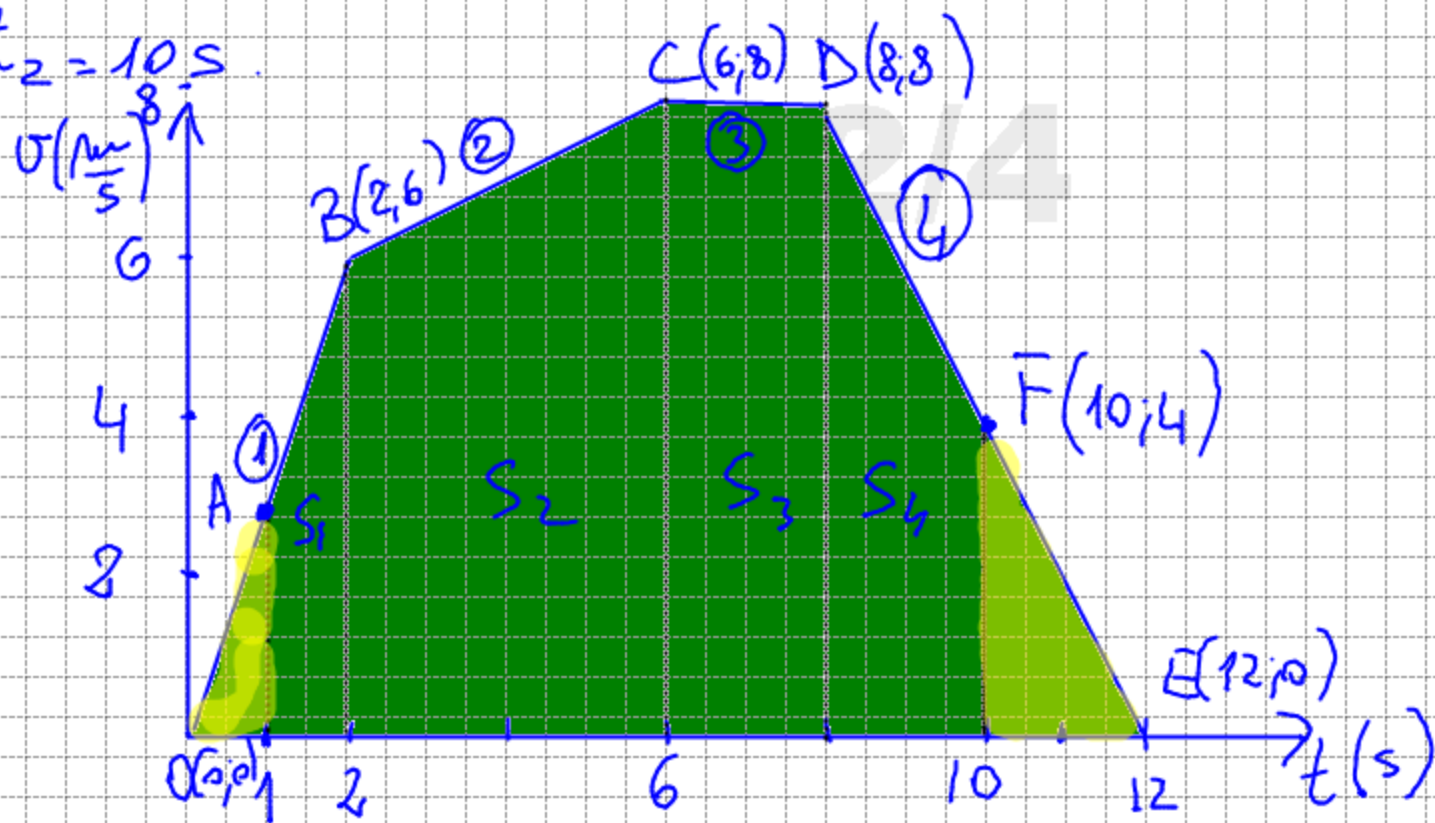
$$(*) \quad 16 = \frac{1}{2} a (2)^2 + 4 \quad 16 = \frac{1}{2} a \cdot 4 + 4 \rightarrow 16 = 2a + 4$$

$$\rightarrow 2a = 16 - 4 \rightarrow 2a = 12 \quad a = 6 \frac{\text{m}}{\text{s}^2}$$

$$s = \frac{1}{2} \cdot 6 t^2 + 4 \quad \boxed{s = 3t^2 + 4}$$

$$s = 3(4)^2 + 4 \quad s = 52 \text{ m}$$

2) $t_1 = 1\text{s}$ e $t_2 = 10\text{s}$.



① $v = at$ impongo il passaggio per $B(2;6)$ e trovo a

$$6 = a \cdot 2 \quad a = 3 \frac{\text{m}}{\text{s}^2}$$

$$\boxed{v = 3t}$$

$$v = 3 \frac{\text{m}}{\text{s}} \text{ per } t = 1\text{s} \quad A(1;3)$$

④ $a = \frac{v_E - v_D}{t_E - t_D} \quad a = \frac{0 - 8}{12 - 8} \Rightarrow a = -\frac{8}{4} \quad a = -2 \frac{\text{m}}{\text{s}^2}$

$$v = at + v_i$$

E (oppure D)

$$v = -2t + v_i \text{ impongo il passaggio per}$$

$$0 = -2(12) + v_i \quad v_i = 24 \frac{\text{m}}{\text{s}}$$

$$\boxed{v = -2t + 24}$$

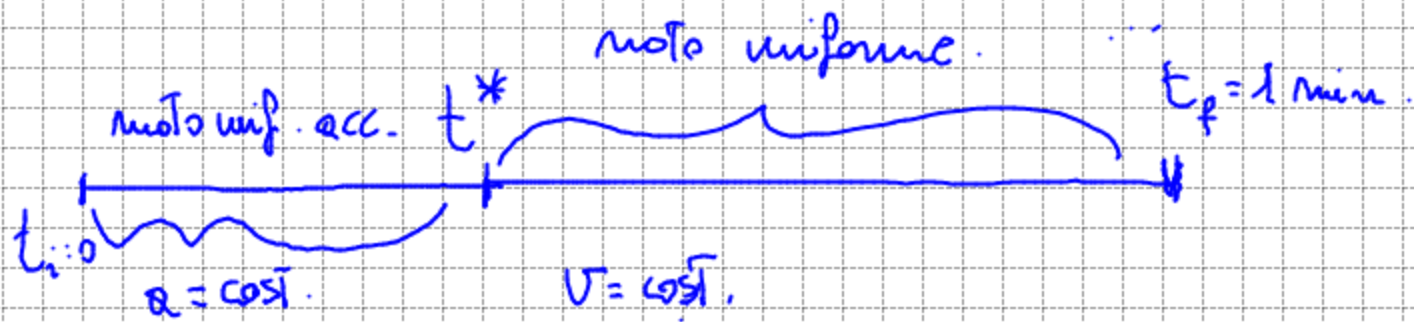
$$\text{per } t = 10\text{s} \quad v = 4 \frac{\text{m}}{\text{s}}$$

$$s = \frac{(6+3) \cdot 1}{2} + \frac{(6+8) \cdot 2}{2} + 8 \cdot 8 + \frac{(8+4) \cdot 1}{2} = 60,5 \text{ m}$$

3) $v_i = 0 \frac{m}{s}$ $\Delta S_1 = 360 m$ con $a = \cos t$.

poi $v = \cos t$, Dopo 1 min dalla partenza $\Delta S_{1min} = 1,8 km$

$a = ?$



2/4