

$$\textcircled{9}. \quad v_f = 36 \text{ km/h} \xrightarrow{\div 3,6} 10 \text{ m/s} \quad v_i = ? \quad a = 0,5 \text{ m/s}^2$$

$$\Delta t = 12 \text{ s}$$

$$a = \frac{v_f - v_i}{\Delta t} \quad | \cdot \Delta t \Rightarrow a \cdot \Delta t = v_f - v_i \quad | - v_f / -1$$

$$\Rightarrow v_i = v_f - a \cdot \Delta t = 10 - 0,5 \cdot 12 = \underline{\underline{4 \text{ m/s}}}$$

$$\textcircled{10}. \quad \text{(a)}. \quad v_i(t_i = 0 \text{ s}) = 60 \text{ m/s} \quad \Rightarrow v_{\text{moy}} = \frac{1}{2}(60 + 5) = \underline{\underline{32,5 \text{ m/s}}}$$

$$v_f(t_f = 11 \text{ s}) = 5 \text{ m/s}$$

$$\text{(b)}. \quad \text{On peut choisir } v_i = 60 \text{ m/s}, \quad v_f = 5 \text{ m/s} \text{ et } \Delta t = 11 \text{ s}$$

$$\Rightarrow a = \frac{v_f - v_i}{\Delta t} = \frac{5 - 60}{11} = \underline{\underline{-5 \text{ m/s}^2}}$$

$$\text{(c)}. \quad d = v_{\text{moy}} \cdot \Delta t = 32,5 \cdot 11 = \underline{\underline{357,5 \text{ m}}}$$

$$\textcircled{11}. \quad \text{(a)}. \quad v_i = 10 \text{ m/s} \quad v_f = 54 \text{ m/s} \quad \Delta t = 11 \text{ s}$$

$$\Rightarrow v_{\text{moy}} = \frac{1}{2}(v_i + v_f) = \frac{1}{2}(10 + 54) = \underline{\underline{32 \text{ m/s}}}$$

$$\text{(b)}. \quad a = \frac{v_f - v_i}{\Delta t} = \frac{54 - 10}{11} = \underline{\underline{4,4 \text{ m/s}^2}}$$

$$\text{(c)}. \quad d = v_{\text{moy}} \cdot \Delta t = 32 \cdot 11 = \underline{\underline{352 \text{ m}}}$$

$$\textcircled{12}. \quad v_{\text{moy}} = 72 \text{ km/h} \quad v_i = 90 \text{ km/h}$$

$$v_{\text{moy}} = \frac{1}{2}(v_i + v_f) \Rightarrow 72 = \frac{1}{2}(90 + v_f) \quad | \cdot 2 / -90$$

$$\Rightarrow v_f = 144 - 90 = \underline{\underline{54 \text{ km/h}}}$$

$$d = v_{\text{moy}} \cdot \Delta t = \frac{54}{3,6} \cdot 7 = \underline{\underline{105 \text{ m}}}$$

on passe aux m/s