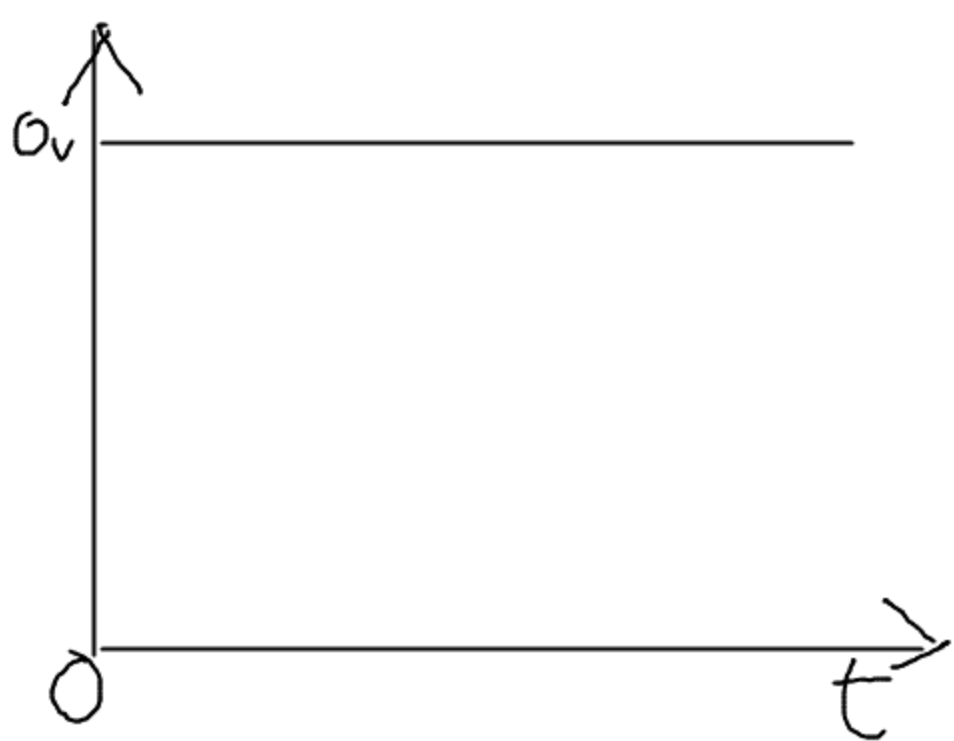
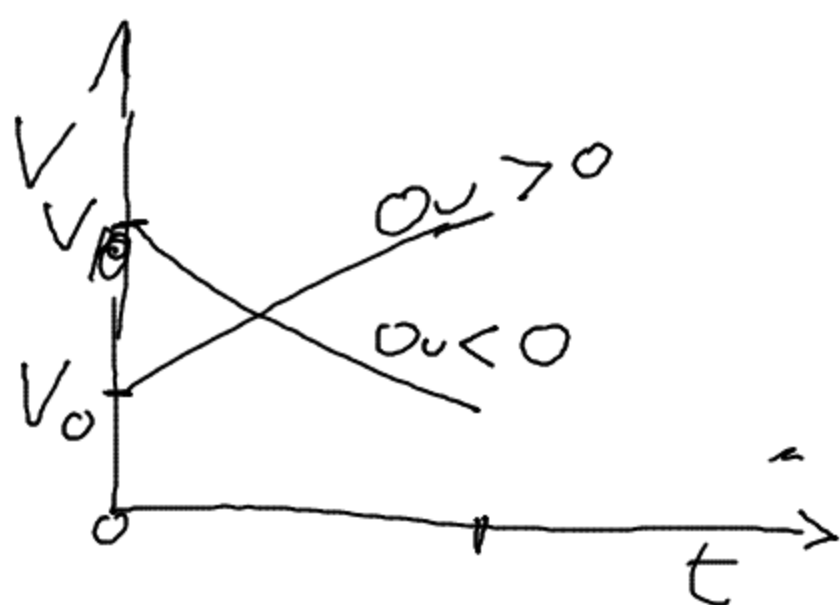


$$a = \frac{V_f - V_i}{t}$$

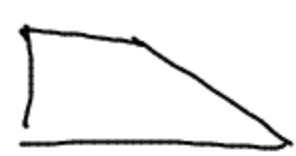
$$t = \frac{V_f - V_i}{a}$$

$$V_f - V_i = a \cdot t$$

$$V_f = V_i + a \cdot t$$



$$S = S_0 + V_0 \cdot t + \frac{a \cdot t^2}{2}$$



$$a_{out} = \frac{b_{max} + b_{min}}{2} \cdot h$$

$$\Delta S = \frac{(V + V_0) \cdot t}{2}$$

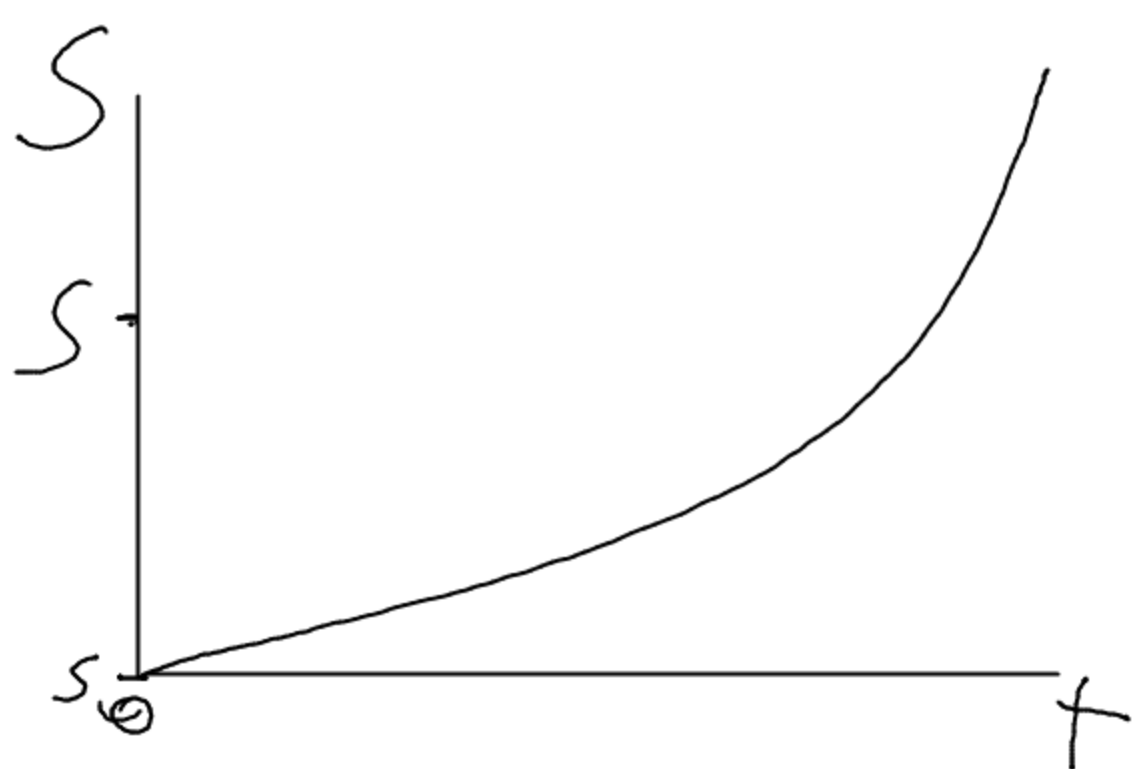
$$\Delta S = \frac{(V_0 + a \cdot t + V_0) \cdot t}{2}$$

$$\Delta S = \frac{(2V_0 + a \cdot t) \cdot t}{2}$$

$$\Delta S = V_0 \cdot t + \frac{a \cdot t^2}{2}$$

$$S - S_0 = V_0 \cdot t + \frac{a \cdot t^2}{2}$$

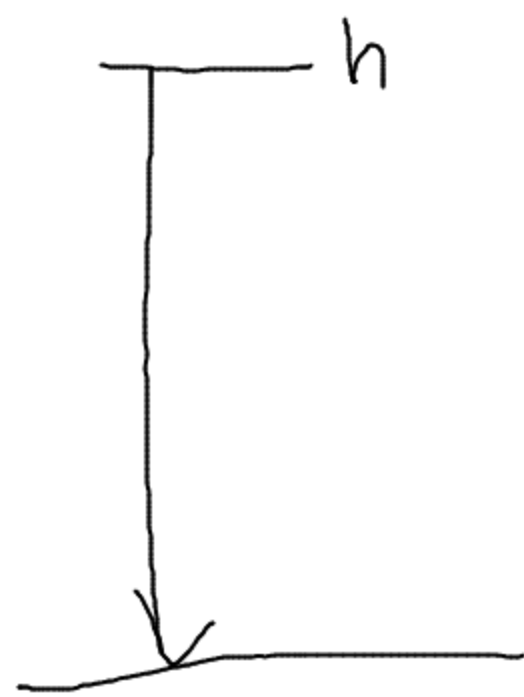
$$S = S_0 + V_0 \cdot t + \frac{a \cdot t^2}{2}$$



$$V = V_0 + a \cdot t$$

$$S = S_0 + V_0 \cdot t + \frac{1}{2} a t^2$$

↓  
h



$$V = V_0 + g \cdot t$$

$$h = V_0 \cdot t + \frac{1}{2} g t^2$$

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$$V_0 = 0$$

$$S = ?$$

$$V_F = 216 \text{ km/h}$$

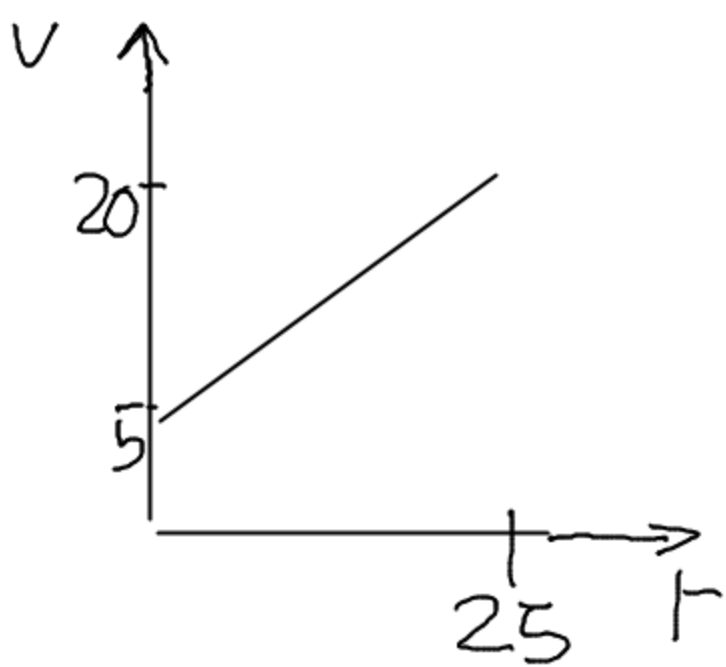
$$t = 12 \text{ sec.}$$

$$S_0 = 0$$

$$a = \frac{V_F - V_0}{t} = \frac{60}{12} = 5 \text{ m/s}^2$$

$$\downarrow \quad 216 \text{ km/h} = 60 \text{ m/sec}$$

$$S = \frac{a \cdot t^2}{2} = \frac{5 \cdot 144}{2} = 360 \text{ m}$$



$$S = \cancel{S_0} + V_0 \cdot t + \frac{a t^2}{2}$$

$$V = V_0 + a \cdot t$$

$$a = \frac{V - V_0}{t} = \frac{20 - 5}{25} = \frac{15}{25} = 0,6 \text{ m/sec}^2$$

$$V = 5 + 0,6 \cdot t$$

$$S = 5 \cdot t + \frac{0,6 \cdot t^2}{2}$$

9)  $V_0 = 90 \text{ km/h}$  ?

$$V_f = 0$$

$$t = 5 \text{ sec}$$

$$V_0 = 90 \text{ km/h} = 25 \text{ m/sec}$$

$$a = \frac{V_f - V_0}{t} = \frac{0 - 25}{5} = -5 \text{ m/sec}^2$$

ES

$$V_0 = 40 \text{ m/sec}$$

$$a = -3 \text{ m/sec}^2$$

$$t = 3 \text{ sec}$$

$$V = ? \quad V_0 + a \cdot t = 40 + (-3 \cdot 3)$$

$$S = \cancel{S_0} + V_0 \cdot t + \frac{a \cdot t^2}{2} = 37 \text{ m/sec}$$

$$40 \cdot 3 + \frac{(-3 \cdot 3^2)}{2} =$$

$$120 - 13,5 = 106,5 \text{ m}$$

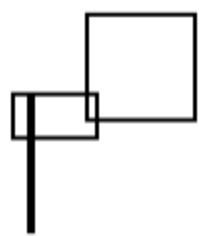
$$V_0 = 0 \quad a = \frac{V - V_0}{t} \quad t = \frac{V - V_0}{a}$$

$$S = 64 \text{ m}$$

$$S_0 = 0$$

$$V = 16 \text{ m/sec}$$

? = t, a



$$t = \frac{V}{a}$$

$$V = V_0 + a \cdot t$$

$$S = \frac{a \cdot t^2}{2} = \frac{a \cdot \left(\frac{V}{a}\right)^2}{2} = \frac{1}{2} \cdot \frac{V^2}{a}$$

$$S = \frac{1}{2} \frac{V^2}{a} \rightarrow a = \frac{V^2}{2S}$$

$$V = a \cdot t$$

$$S = \frac{1}{2} a t^2 = \frac{1}{2} a \frac{V^2}{a^2} \Rightarrow a = \frac{1}{2} \cdot \frac{V^2}{S} = \frac{V^2}{2S}$$

$$a = \frac{V^2}{2S} = \frac{256}{128} = 2 \text{ m/sec}^2 \quad t = \frac{V}{a} = \frac{16}{2} = 8 \text{ sec}$$

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$$t = 3 \text{ s}$$

$$V = g \cdot t = 9,8 \cdot 3 = 29,4 \text{ m/s}$$

$$V = ?$$

$$h = \frac{1}{2} g \cdot t^2 = \frac{1}{2} \cdot 9,8 \cdot 9 = 44,1 \text{ m}$$

$$h = ?$$