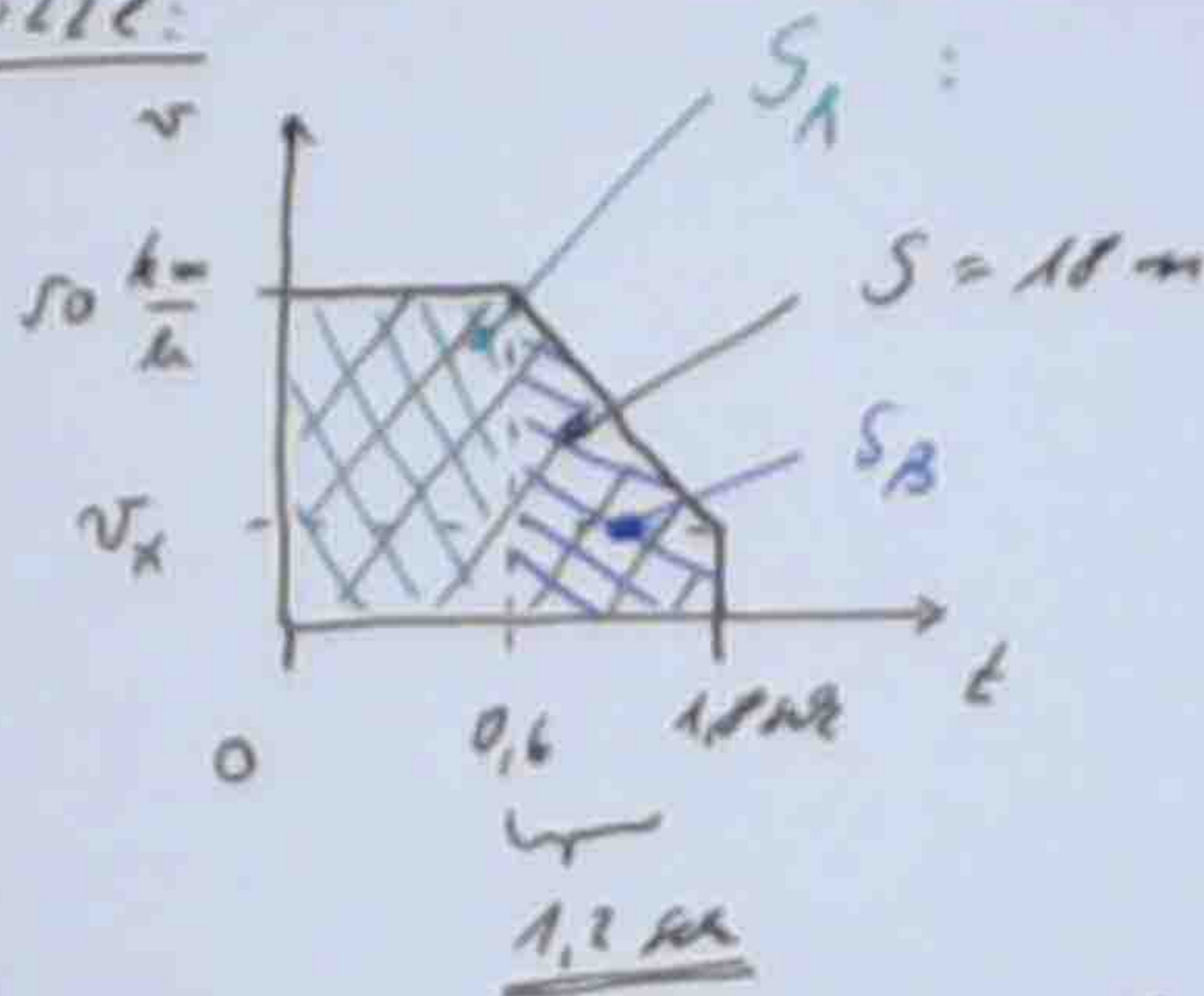


Aufgabe 6 (10)

gegeben
 $m = 1500 \text{ kg}$
 $S = 18 \text{ m}$
 $t_R = 0,6 \text{ s}$
 $1,2 \text{ s}$

gesucht
 a) v_x (10)
 b) E_{kin} (10)

Skizze:

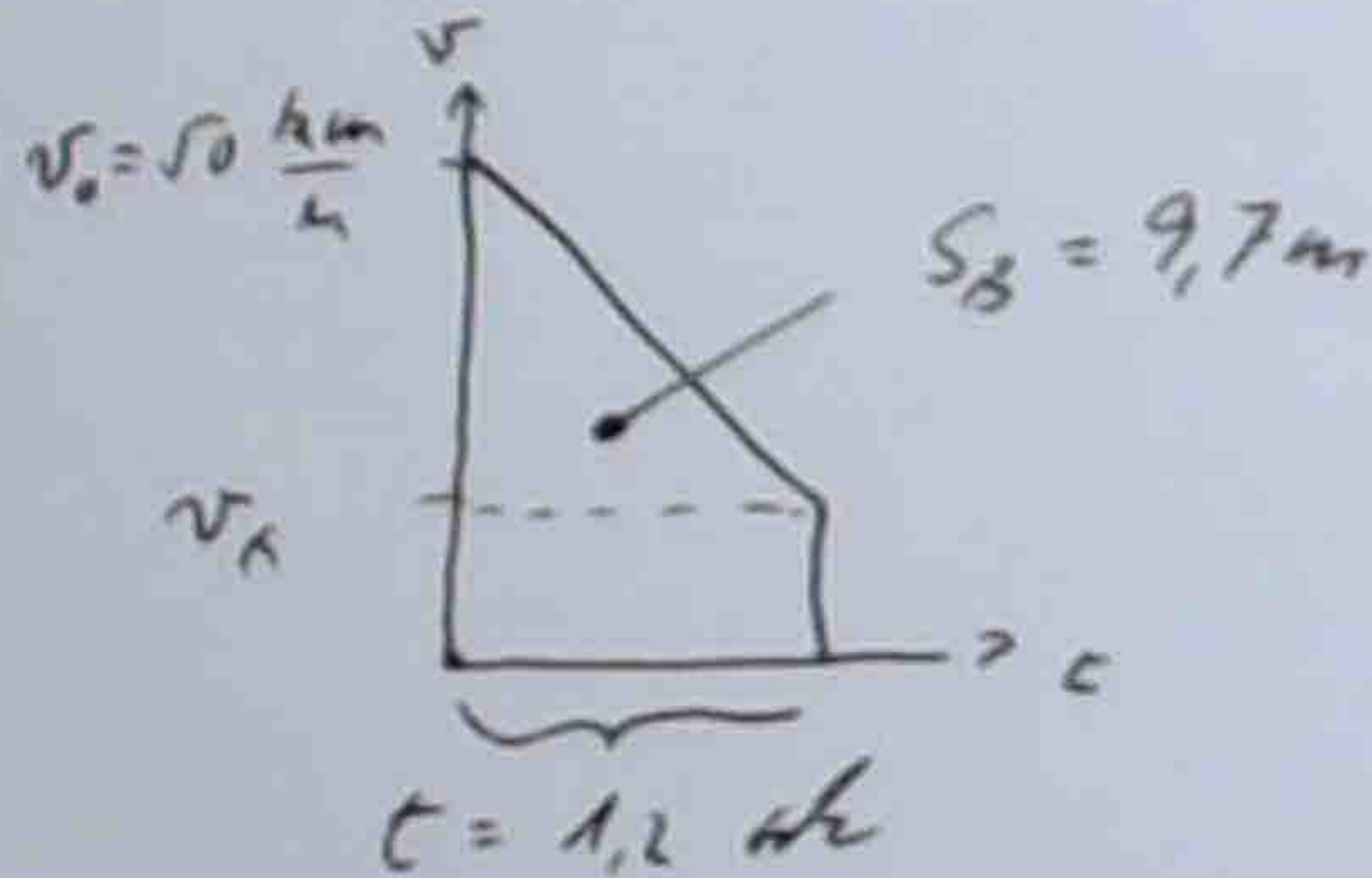


$v = \frac{S_R}{t_R} \rightarrow S_R = v \cdot t_R$

$S_A = \frac{50 \text{ km} \cdot 0,6 \text{ s}}{1} = \frac{3000}{1} = 3000$

$S_R = 8,3 \text{ m}$

$S_B = S - S_R = 9,7 \text{ m}$



Formelammlung!

$S = \frac{1}{2} \cdot (v_0 + v_x) \cdot t \quad | : \frac{1}{2}; : t$

$\frac{S}{\frac{1}{2} \cdot t} = v_0 + v_x \quad | - v_0;$

$v_x = \frac{2 \cdot S}{t} - v_0 = \frac{2 \cdot 9,7 \text{ m}}{1,2 \text{ s}} - \frac{50 \text{ km}}{3,6 \text{ s}} = 2,28 \frac{\text{m}}{\text{s}} \approx \underline{\underline{8,2 \frac{\text{km}}{\text{h}}}}$

b) $E = \frac{m \cdot v^2}{2} = \frac{1500 \text{ kg}}{2} \cdot 2,28^2 \frac{\text{m}^2}{\text{s}^2} \text{ Nm} = \underline{\underline{3898,8 \text{ Nm}}}$

S.50