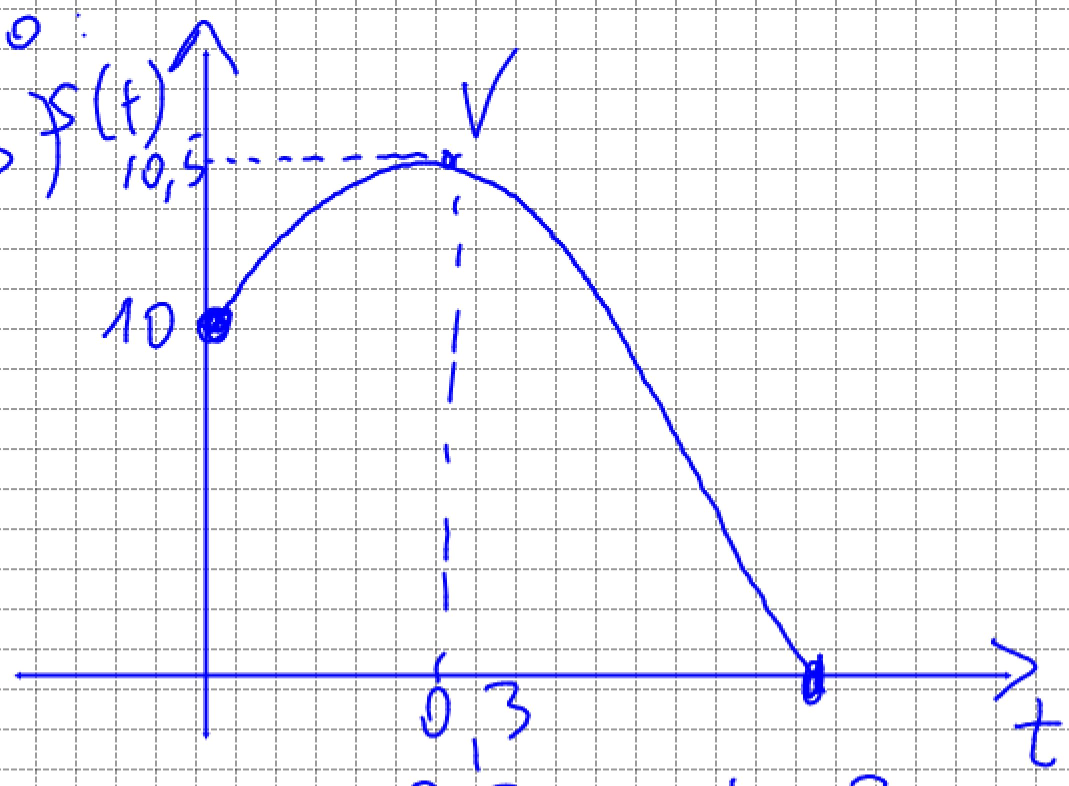
N56 PAG 149

$s(0) = 10 \qquad s(t) = 10 + 3t - \frac{1}{2} g t^2$

$g = 9,8 \qquad t > 0$

per quanto tempo il moto è diretto verso l'alto:

$V\left(\overset{t}{0,3} \,;\, \overset{s(t)}{10,5}\right)$



a) tempo di salita: $t = \frac{3}{9,8} \simeq 0,3\,s$.

b)

$v_i = v(0)$

$v_f = v(0,3)$

$v(0) = s'(0) = -g(t) + 3 = 3 \ \frac{m}{s}$

$v(0,3) = 0$

$$v_m = \frac{v(0) + v(0,3)}{2} = \frac{3}{2} \ \frac{m}{s}$$

c) T quota $s(T) = 0$

$$10 + 3t - \frac{1}{2} g t^2 = 0$$

$$t_{1,2} = \frac{-3 \pm \sqrt{9 - 4(10)\left(-\frac{1}{2} g\right)}}{2\left(-\frac{1}{2} g\right)} =$$

$$= \frac{-3 \pm \sqrt{9 + 196}}{-9,8} = \frac{-3 \pm 14,32}{-9,8}$$

$$t_2 = \frac{-3 - \sqrt{205}}{-9,8} = \frac{3 + \sqrt{205}}{9,8}$$