Hendrik Heinz Mathe 6.4.20

a.) $v'(x) = 6,96x^2 + 34,8x = 0$

$x(-6,96x + 34,8) = 0 \mid -34,8$

$-34,8 = -6,96x \mid : -6,96$

$= 5$ sek

b.) $v' = 34,8 \Rightarrow 0 = 7P$

$v''(5) = -73,92 \cdot (-5) + 34,8 = 34,8$ Hop

$-2,32 \cdot 5^3 + 17,4 \cdot 5^2 = -290 + 435 = 145 m/s = 522 km/h$

c.) $i = [0; 5]$

$-2,32x^3 + 17,4x^2$

$R(x) = -\frac{2,32x^4}{4} + \frac{17,4x^3}{3} = \frac{-2,32}{4}x^4 + \frac{17,4}{3}x^3$

$i(x) = 0$

$15 = 362,5 m$

e.) $v''(x) = 73,92x + 34,8 = 0 \mid$

$34,8 - 73,92x \mid : 73,92$

$x = 2,5$

d.) $2(-2,32x^2 + 17,4x) = 0$

$0 = -2,32x + 17,4 \mid -17,4$

$17,4 = -2,32x \mid : 2,32$

$7,5 = x$

$i [0; 7,5]$

$R(x) = \frac{-2,32}{4}x^4 + \frac{17,4}{3}x^3$

$\int_0^{7,5} (-2,32x^3 + 17,4x^2)\, dx$

$10 = 0$

$17,5 = \frac{-2,32}{4}7,5^4 + \frac{17,4}{3} \cdot 7,5^3 = 611,7 m$