$V = 0 = at$

$0 = \left(\frac{v^2}{2h}\right)t$

$\frac{(v)2h}{v^2} = t$

$y = \frac{1}{2}at^2 + v_0 t + h = 0$

$= \frac{1}{2}\left(\frac{v^2}{2h}\right)\left(\frac{2h}{v}\right)^2 + v_0\left(\frac{2h}{v}\right) + h$

$= \frac{1}{2}\left(\frac{v^2}{2h}\right)\left(\frac{4h^2}{v^2}\right) + 2h + h$ some constant

$= \frac{1}{2}2h + 2h + h = 4h = y$

$y(0) = 0$ ✓

$-0.5\ km/s = (a)(t)$ 1/208

$a = \frac{v^2}{2h} = \frac{.25}{2(26)} = .0048 = \frac{0.5}{t}$

$.0048 = \frac{v^2}{2(25.5)}$

1/4

52/1

= 1 1/2

$v^2 = (51).0048 = .2448$

$v = -\sqrt{.2448} \approx -0.49477$

$= (-1)(.5 - .0048)$

full-rate $- 0.5$

last-velocity $- .0048 = V_0 +$

$-V_0$

$-.0048 = \text{rate} - 0.5$

$\boxed{\text{rate} = .4951}$