1. FUEL CONSUMPTION (5 points) — *Jaan Kalda.* The given graph (a larger copy is on an extra sheet) shows a car's fuel consumption as a function of time. It is known that the car started moving from a horizontal road segment with initial acceleration $a_0 = 5\,\mathrm{m/s^2}$. At time $t_1 = 11\,\mathrm{s}$, the road was horizontal and the driver switched on the cruise control for constant speed $v_0 = 90\,\mathrm{km/h}$. Shortly afterwards, the car started moving up a hill. How high was the highest point on the road over that hill, relative to the height at t_1? Assume that the efficiency of the car was constant at all times. Remark: between seconds 2 and 10, there might have been ascents and/or descents on the road.

