

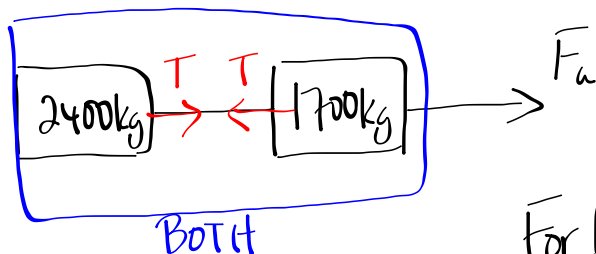
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$v_i = 0$

$v_f = 15 \text{ km/h}$

$\Delta t = 11 \text{ s}$

$a = ?$



$a = \frac{\Delta v}{\Delta t}$

$a = \frac{4.17 \text{ m/s} - 0}{11 \text{ s}}$

$a = 0.37878 \dots \text{ m/s}^2$

For both vehicles:

$\vec{F}_{\text{net}} = m\vec{a}$ (neglecting friction)

$F_a = ma$

$F_a = (4100 \text{ kg})(0.378 \dots \text{ m/s}^2)$

$F_a = 1.6 \times 10^3 \text{ N}$

Just the truck:



$\vec{F}_{\text{net}} = m\vec{a}$

$T = ma$

$T = (2400 \text{ kg})(0.37878 \dots \text{ m/s}^2)$

$T = 9.1 \times 10^2 \text{ N}$