

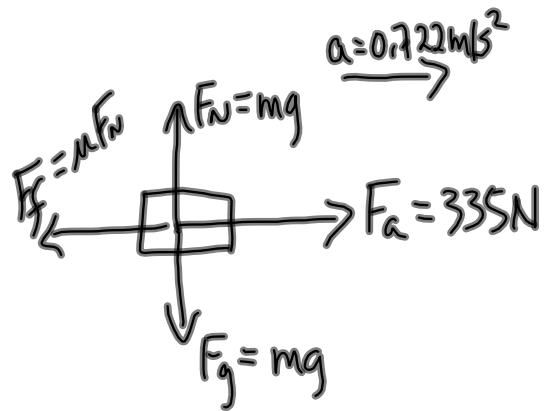
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33. $F_a = 335\text{N}$

$\mu = 0.330$

$a = 0.722\text{m/s}^2$

$m = ??$



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

$F_a - F_f = ma$

$335\text{N} - \mu F_N = m(0.722\text{m/s}^2)$

$335\text{N} - \mu F_g = m(0.722\text{m/s}^2)$

$335\text{N} - \mu mg = m(0.722\text{m/s}^2)$

$335\text{N} - (0.330)(9.81\text{m/s}^2)m = (0.722\text{m/s}^2)m$

$335\text{N} - (3.2373\text{m/s}^2)m = (0.722\text{m/s}^2)m$

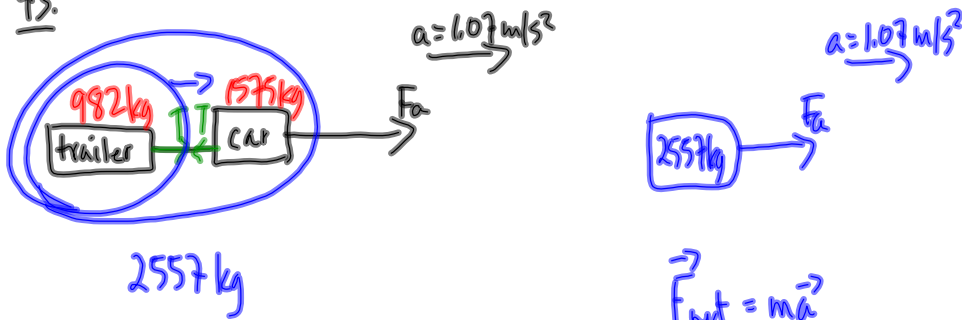
~~$(+3.2373\text{m/s}^2)m$~~

$(+3.2373\text{m/s}^2)m$

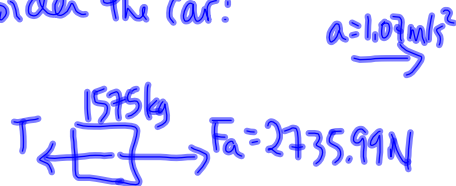
$335\text{N} = (3.9593\text{m/s}^2)m$

$m = 84.6\text{kg}$

43.



Consider the car:



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

$$F_a - T = m a$$

$$2735.99 \text{ N} - T = (1575 \text{ kg})(1.07 \text{ m/s}^2)$$

$$2735.99 \text{ N} - T = 1685.25 \text{ N}$$

$$T = 1050.74 \text{ N}$$

$$T = 1.05 \times 10^3 \text{ N}$$

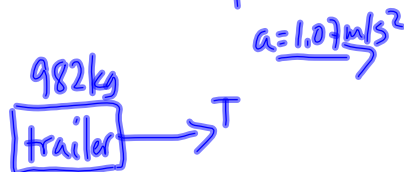
$$\vec{F}_{net} = m\vec{a}$$

$$F_a = m a$$

$$F_a = (2557 \text{ kg})(1.07 \text{ m/s}^2)$$

$$F_a = 2735.99 \text{ N}$$

OR Consider the trailer by itself:



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

$$T = m a$$

$$T = (982 \text{ kg})(1.07 \text{ m/s}^2)$$

$$T = 1050.74 \text{ N}$$

$$T = 1.05 \times 10^3 \text{ N}$$