3. DYNAMIKA: Zagadnienia ogólne, ciężar pozorny - odpowiedzi

3.1. $t = \frac{2d}{v} = 0{,}005$ s; $F = \frac{mv^2}{2d} = 1200$ N

3.2. $S = v\Delta t_1 + \frac{3}{4}\frac{v^2}{g} = 20{,}7$ m

3.3. a) $y = \frac{FS^2}{2mv_0^2}$ b) $y = \frac{Ft^2}{2m}$ gdzie $t = \frac{v_0 + \sqrt{v_0^2 - 2aS}}{a}$

3.4. wypadkowa siła wynosi zero

3.6. $a = \frac{F_W - mg}{m} = 6{,}85\,\frac{\mathrm{m}}{\mathrm{s}^2}$

3.7. a) $W = Q\left(1 + \frac{a}{g}\right)$ b) $W = Q\left(1 - \frac{a}{g}\right)$ c) gdy g = a

3.8. $\frac{N}{Q} = 1 + \frac{2v^2}{Rg}$

3.9. $R = \frac{v^2}{g\,\mathrm{tg}\alpha}$

3.10. $v = \sqrt{\frac{al}{2}}$; $f = \frac{1}{2\pi}\sqrt{\frac{2a}{l}}$

3.11. $F = \frac{2m\Delta S_5}{t_5^2 - t_4^2} = 4{,}2 \cdot 10^{-2}$ N

3.12. $a = \frac{\mu u}{(m_0 - \mu t)} - g = 22{,}2\ \frac{m}{s^2}$

3.13. $a = \frac{F_1 - F_2}{m_1 + m_0 + m_2}$; $N_1 = \frac{F_1(m_0 + m_2) + F_2 m_1}{m_1 + m_0 + m_2}$; $N_2 = \frac{F_2(m_0 + m_1) + F_1 m_2}{m_1 + m_0 + m_2}$