Osnovne kinetičke veličine sustava čestice

3.1 $s = 1{,}064\ m{\cdot}g/c$

3.2 a) $v = \sum_{i=1}^{n} \frac{F_g \cdot u}{F_{g1} + i \cdot F_g}$,

b) $v = \frac{n \cdot F_G \cdot u}{F_{G1} + n \cdot F_G}$.

3.3 $\alpha = 13{,}27°$

3.4 $x = 0{,}1655$ m (ulijevo)

3.5 $v = 0{,}5455$ m/s, $I = 55{,}6$ N s

3.6 $v_b = 0{,}6$ m/s, $\Delta h = 33{,}44$ mm,
$h_č = 20{,}687$ m

3.7 $v_2 = \frac{F_g}{F_g + Q} v_r \cos\alpha$,

$v_1 = \frac{Q}{F_g + Q} v_r \cos\alpha$

3.8 $\vec{a} = \frac{F}{3m}\vec{i}$, $\vec{L}_O = 3mr^2\omega\vec{k}$,

$\vec{\alpha} = -\frac{Fb}{3mr^2}\vec{k}$

3.9 $v_1 = 733{,}4$ m/s

3.10 $a_A = 5{,}233$ m/s^2, $t = 0{,}5759$ s,
v = 3,624 m/s

3.11 $v_z = 0{,}355$ m/s

Sudar čestica

4.1 $l = 0{,}3679$ m

4.2 $k = 1/3$, $\Delta E_k = 80$ %

4.3 $k = 0{,}3$, $\alpha = 60°$, $\beta = 30°$

4.4 $x = 3$ m, $y = 3\sqrt{3}$ m, $t = 0{,}6$ s,
$\beta = 73{,}9°$,
$c = 9{,}014$ m/s, $\overline{OP} = 9\sqrt{3}$ m

4.5 $H = 5{,}012$ m

4.6 $\gamma = 30°$, $h = 0{,}2309$ m,
$t_A = 0{,}651$ s, $t_B = 0{,}217$ s,
$t_C = 0{,}3255$ s

4.7 $\Delta E_k = -7{,}063$ J, $L = 1{,}445$ m,
$h = 0{,}64$ m

4.8 $c_1 = 0{,}8$ m/s, $c_2 = 2{,}6$ m/s

4.9 $y = \sqrt{3}x - 0{,}1962x^2$,
$y_{(x=6\text{m})} = 3{,}329$ m, $t = 1{,}2$ s,
$\alpha = -31{,}9°$, $v = 5{,}889$ m/s,
$c = 3{,}992$ m/s, $x_P = 4{,}5858$ m

4.10 $c_1 = 3{,}697$ m/s, $c_2 = 3{,}357$ m/s,
$\Delta E_k = 52$ %.

4.11 $m_1/m_2 = 4$, $k = 1/9$

4.12 $c_1 = 3{,}175$ m/s, $c_2 = 4{,}16$ m/s

4.13 $c_1 = 2{,}22$ m/s, $c_2 = -1$ m/s,
$d = 7{,}849$ m

4.14 $c_1 = 13{,}384$ m/s, $c_2 = 6$ m/s,
$v_1 = 12{,}93$ m/s,
$k = 1/3$, $\Delta E_k = -48{,}11$ J