

# Lösungen des Aufgabenblatts

A1. a)  $a = \underline{1,25\text{m/s}^2}$

b)  $t = \underline{6\text{s}}$

c)  $a_2 = \underline{-1,5\text{m/s}^2}$

d)  $s = \underline{18,75\text{m}}$

A2.  $s_1 = \underline{781\text{m}}$        $s_2 = \underline{103\text{m}}$

A3.  $v = \underline{499\text{km/h}}$

A4.  $t = \underline{4\text{s}} / \underline{1,25\text{s}}$ ;     $s = \underline{20\text{m}} / \underline{6,25\text{m}}$

A5.  $s = \underline{26,7\text{m}}$

B1.  $a = \underline{3,27\text{ m/s}^2}$

B2.  $F = \underline{60\text{kN}}$

B3. a)  $a = \underline{20\text{m/s}^2}$ ; b)  $s = \underline{9\text{km}}$ ;    c)  $s(10\text{s}) - s(9\text{s}) = 1\text{km} - 810\text{m} = \underline{190\text{m}}$ ;      d)  $F = \underline{40\text{kN}}$

C1.  $F = \underline{132,8\text{N}}$

C2.  $F = \underline{8,5\text{N}}$

C3.  $h = \underline{20,4\text{m}}$

C4.  $h(t) = \underline{1/2 \cdot g \cdot t^2}$

C5.  $h = \underline{78,5\text{m}}$

C6.  $v = \underline{11,3\text{m/s}} = \underline{40,7\text{km/h}}$

C7.  $t = \underline{24,7\text{s}}$ ;       $v = \underline{873\text{km/h}}$

C8.  $\bar{v} = \underline{49\text{m/s}}$

C9.  $\underline{4\text{ Stockwerke}}$