RJESENJA ZADATAKA ZA OSME RAZREDE

1. v_1= 54km/h= 15m/s
   v2= 90km/h= 25m/s
   l_1=115m
   l_2=195m
   t=?

   $s=l_1+l_2=310m$ (7.5b)
   $v_R=v_2-v_1$= 10m/s (7.5b)
   $t=s/v_R=31s$ (5b)

   (20b)

2. t_1=7s
   t_2=8s
   g= 9,81m/s^2

   $h_1=\frac{1}{2}gt_1^2$= 240,35m (5b)
   $h_2=\frac{1}{2}gt_2^2$= 313,92m (5b)
   $\Delta h=h_2-h_1$=73,57m (5b)

   (15b)

3. m=10g
   v_1=500m/s
   v_2=300m/s
   d=8cm=0,008m

   $A=\Delta E_K= E_{k2}- E_{k1}=\frac{1}{2}m(v_1^2- v_2^2)$= 800J (10b)
   $A=F_{sr}\cdot d$ => d=A/ F_{sr}= 10kN (10b)

   (20b)

4. ρ=800 kg/m^3
   h_1= 4m
   h_2=?

   $F= F_p-mg$
   $\rho Va= \rho_o gV- \rho gV$
   a= 2,5 m/s^2 (10b)
   $v^2=2ah_1$ => v=20m/s (5b)
   $h_2=v^2/2g$= 1m (5b)

   (20b)

5. m_1= 2,5kg
   m_2= 1,5kg
   v_1= 6m/s
   v_2= 2m/s

   $m_1v_1-m_2v_2= (m_1+m_1)v$ => v= 3m/s (5b)
   $E=\frac{1}{2}m_1v_1^2+\frac{1}{2}m_2v_2^2$= 48J (5b)
   $E'=\frac{1}{2}(m_1+m_2)v^2$= 18J (5b)

v=?
E=?
E'=?
ΔE=?

ΔE= E- E'= 30J (5b)

ΔE/E=0,62=62% (5b)

(25b)