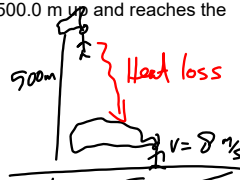


A 65 kg skydiver leaves the plane at 500.0 m up and reaches the ground at a speed of 8.0 m/s.

a) What is the PE g at the top?
 b) What is the KE at the bottom?
 c) How much heat is lost?
 d) What is the Efficiency?



$PE_g = (65\text{ kg})(9.8\text{ m/s}^2)(500\text{ m}) = 318825\text{ J}$
 $KE = \frac{1}{2}(65)(8)^2 = 2080\text{ J}$
 $TE = TPE + KE$
 $318825 = 2080 + W_f$
 $316745 = W_f$
 $\epsilon = \frac{2080}{318825} \times 100 = 0.65\%$

Dec 3-3:49 PM