Physics 326 – Homework 7 Checkpoints

You still have to prove this of course ➔ remember, “No Work, No Points!”
Also, these are checkpoints, they are not necessarily what your final answers should look like.

1. (a) $v_{ape} = \frac{1}{r_{ape}} \sqrt{\frac{r_0 y}{\mu}}$  
   (b) $\lambda_L = \sqrt{\frac{2}{5}}, \quad \lambda_R = \sqrt{\frac{5}{8}}$  
   (d) 62.5 years

2. (a) +2.78 km/s  
   (b) $7.80 \times 10^4$ km

3. (a) $v_e = \sqrt{\frac{2GM_\oplus}{r}}$  
   (b) fire engines at perigee

4. (b) $r(t) \approx \frac{L_0^2}{GM} e^{-4\beta t}, \quad \phi(t) = \frac{G^2M^2}{L_0^3} e^{4\beta t}$

5. (a) both 0.055
   (b) discussed in lecture / pretty obvious … just remember to justify your answer, however briefly
   (c) 71% (!!)