#1) Place a 200inch telescope on Pluto. Using the diffraction limit, compute the maximum distance measurement you can make from Pluto using the parallax method. Compare with your answer from Earth.

#2) Let us travel 4 light−years to Alpha Centauri. Now we turn around and look at the sun, M=4.72. Compute m, l, and L.

#3) Consider a star that has relative luminosity l_0=2.52 x 10^{-8} W/m^2 at a distance of d=d_0=10pc.
Fill in the following table:

distance	***L***	***l***	***M***	***m***
0.1pc				
1pc				
10pc		2.52 x 10^{-8} W/m^2		
100pc				
1000pc				

#4) From the Berry text, p.165, Problem #6: Gravitational red shift of a photon.

#5) In Fig.6, P.19 in the text, the graph shows that the red shift z can be larger than 1. This would mean that the recession velocity of the distant star would be greater than the speed of light. Does this violate Einstein's speed limit that nothing can go faster than light?