Homework #1
Astro 202

Due September 11

1) Use the inverse square law (flux = L/(4\*π\*D^2)) to calculate the flux of a planet at
   a) 1.0 AU from the Sun (Earth!)
   b) 0.5 & 2.0 AU from the Sun
   c) for Jupiter & Pluto
   d) 1.0 AU from a star twice as luminous as the Sun
   e) 0.5 AU from a star half as luminous as the Sun

HINT: Please use the following units: distance (D) in cm (1 AU = 1.5x10^{13} cm)
   Luminosity (L) in erg (L_{SUN} = 3.85x10^{33} ergs) (there are 10^7 ergs in a Watt)

Please write your answers in scientific notation with units of ergs/cm^2

2) The flux of star #1 (as collected here on Earth) is twice the flux of star #2, and we
   know that star #2 is same luminosity as star #1.
   a) Which star is further from Earth?
   b) How much further is it? (example ans: it is 10 times further)