Universal Gravitation

Chapter Eight- "phy 8 rev 1"

Physics

$m_e = 5.98 \times 10^{24}$ kg
$r_e = 6.38 \times 10^{6}$ m
$r_{oe} = 1.5 \times 10^{11}$ m (orbital)

$m_s = 1.99 \times 10^{30}$ kg
$r_s = 6.96 \times 10^{8}$ m

$m_m = 7.22 \times 10^{22}$ kg
$r_m = 1.785 \times 10^{6}$ m
$r_{om} = 3.9 \times 10^{8}$ m (from earth)
$T_m = 27.3$ days

1. What is the period of a planet 6 times farther from the sun as the earth is? (use Kepler's 3rd Law) (page 12 on 8.1 notes if you need it)

2. If I have a mass of 80.0 kg what is my weight at the surface of the earth?

3. What is the force of attraction between the earth and the moon?