Conceptual Physics   Name:_____
Chapter 12-14 Review   Period : _____ Date: _____

1.   What would happen to your weight if,

        a)   The radius of the Earth was doubled

        b)   The mass of the Earth was doubled

        c)   The mass of the Earth was doubled, and the radius was doubled

2.   The force of attraction between two objects is 20 N. What would be the force of attraction be if

        a)   The distance between the two objects is doubled

        b)   The distance between the two objects is reduced to a third of the original

        c)   The mass of each object is doubled?

3.   How does the force of attraction on the earth due to the moon compare with the force of attraction on the moon due to the earth?

4.   Where is the force of gravity the greatest- on the earth, at the center of the earth, or above the surface of the earth?

5.   Why doesn't the gravitational attraction between the earth and the moon cause the moon to fall into the earth?

6.   What 2 quantities does g depend on?

7.   What is the value of g at the center of the earth?

8.   What would the value of g be if,

        a)   The radius of the Earth was doubled

        b)   The mass of the Earth was doubled

        c)   The mass of the Earth was doubled, and the radius was doubled

9.   What is the apparent weight due to?

10.   How would your apparent weight compare to the original weight if you were in an elevator and it
      was
      a)   Accelerating downwards

      b)   Accelerating upwards

      c)   Moving upward at constant speed

      d)   Moving downward at constant speed

      e)   The elevator cable snapped and it was in free fall!

11.   What causes tides? How many tides are there in a day?

12.   What causes a lunar eclipse? A solar eclipse?

13.   What happens to tides when there is a solar eclipse?

14.   What is Kepler's second Law? Which is the fastest moving planet in the solar system?

15.   What is the escape speed from the surface of the earth?

16.   Calculate the force of gravity on 2000 kg mass, which is 10.4×10^6 m above the Earth's surface.
      The mass of the Earth is 6×10^{24} kg and the radius of the earth is 6.4×10^6 m.