What is the force exerted by Big Ben on the Empire State building? Assume that Big Ben has a mass of 108 kilograms and the Empire State building 109 kilograms. The distance between them is about 5000 kilometers. (3.15x10-20N)

Determine the force of gravitational attraction between the earth (m = 5.98 x 1024 kg) and a 70-kg physics student if the student is standing at sea level, a distance of 6.38 x 106 m from earth's center. (685.94N)

Determine the force of gravitational attraction between the earth (m = 5.98 x 1024 kg) and a 70-kg physics student if the student is in an airplane at 40000 feet above earth's surface. This would place the student a distance of 6.39 x 106 m from earth's center. (683.79N)

Two students are sitting 1.50m apart. One student has a mass of 70.0kg and the other has a mass of 52.0kg. What is the gravitational force between them? (1.08x10-7N)

What gravitational force does the moon produce on the earth if the centers of the moon and earth are 3.88x108m apart and the moon has a mass of 7.34x1022kg? (1.94x1020N)

If the gravitational force between two objects of equal mass is 2.30x10-8N when the objects are 10.0m apart, what is the mass of each object? (1.86x102kg)

Calculate the gravitational force on a 6.50x102kg spacecraft that is 4.15x106m above the surface of the earth. (2.34x103N)

The gravitational force between two objects that are 2.1x10-1m apart is 3.2x10-6N. If the mass of one object is 5.5x101kg, what is the mass of the other object. (38kg)

If two objects each with a mass of 2.0x10kg, produce a gravitational force between them of 3.7x10-6N, what is the distance between them? (8.5x10-1m)

What is the gravitational force on a 70.0kg object sitting on the earth’s surface? (6.88x102N)

What is the gravitational force on a 35.0kg object standing on the earth’s surface? (3.44x102N)

What is the gravitational force on a 70.0kg object that is 6.37x106m above the surface of the earth? (1.72x102N)

What is the gravitational force on a 70.0kg object that is 3.18x106mabove the earth’s surface? (3.06x102N)

A satellite is placed in circular orbit 3.2 x 106 m above the earth. What is the orbital speed of the satellite? What is the period? (v=6455.6m/s; T=9315s/2.6hrs)

The military wants to place a satellite into orbit around Earth at a height of 750km. What velocity does it need to maintain this orbit? (7484.16m/s)

Dish network sent a satellite into orbit 36000km above Earth. What is the velocity of the satellite in km/hr? (11,045.4km/hr)

Verizon has a satellite in an orbit traveling at 7095m/s. What is the height of the satellite off the crust of the earth? (1.55x106m)

A scientist wants to determine the mass of an unknown planet and sends a satellite into orbit which achieves a speed of 5600m/s at a height of 2500m above the surface. The radius of the planet is 3.78x104m. What is the mass of the planet? (1.89x1022kg)

The sun has a mass of 1.99x1030kg. What is the force of gravity between the sun and the Earth if the radius between the two is 1.5x108km? What is the acceleration of the Earth? What is the velocity of the earth around the sun in km/hr? (107096.04km/hr; 1.07x105km/hr)