Name _____ Date _____

1) A 70 kg mass is 20 m from a 50 kg mass. What is the gravitational attraction between them?

2) Mars is 2.3 x 10^{11} m from the sun. Its mass is 6.4 x 10^{23} kg. The sun's mass is 1.99 x 10^{30} kg. What is the gravitational attraction between Mars and the Sun?

3) The radius of Neptune is 2.27 x 10^{7} m. Its mass is 1.03 x 10^{26} kg. What is the gravitational force or weight felt by a 70 kg person on Neptune?

Answers: 1) 5.84 x 10^{-10} N 2) 1.61 x 10^{21} N   3) 933.27 N

4) What is the acceleration due to gravity on Neptune?   Hint:use information from problem 3

5) What is the orbital radius of a satellite of earth, when the satellite is 475,000 m above the earth's surface?

6) A 500 N force is applied to a 70 kg object. If its acceleration is 5 m/s², what was u?

Answers: 4) 13.33 m/s² 5) 6.86 x 10⁶ m 6) 0.22