

NAME \_\_\_\_\_

PERIOD \_\_\_\_\_

**PHYSICS HOMEWORK QUIZ #11.5 D**

**UNIVERSAL GRAVITATION**

The moon Ganymede, which has a mass of  $1.480 \times 10^{22}$  kg., orbits the planet Jupiter once every 7.155 Earth days.

1. What is the velocity of Ganymede as it orbits Jupiter? [3 pts]

2. What is the radius of the orbit of Ganymede about Jupiter? [3 pts]

3. What is the gravitational force between Jupiter and Ganymede? [3 pts]

4. What will be the escape velocity of a rocket leaving the surface of Jupiter? [3 pts]

5. With what velocity should a rocket leave the surface of Jupiter if the velocity of the rocket is 35,000 m/sec when the rocket is very far from Jupiter? [3 pts]