Name: Period:

Universal Law of Gravitation

$$F=G\frac{m\_{1}m\_{2}}{r^{2}}$$

1. Two cars are parked 3 m apart. The mass of car one is 800kg. The mass of car two is 1200kg. What is the gravitational attraction between them?

2. A 130kg astronaut is 600m away from the center of a 5 x 106 kg asteroid. What is the force on the astronaut?

3. A man and a woman are standing 0.6m away from each other. If the mass of the man is 75kg and the mass of the woman is 60kg how attracted are they to each other?

4. The force of attraction between a 73kg person standing on a planet is 620N. The person is

5.3 x 105 m away from the center of the planet. What is the mass of the planet?

5. The gravitational force between the sun and the Earth is 3.6 x 1022N. What is the mass of

the sun? (Your reference tables have the masses and distances on the first page.)