

## Answers to the Mass and Weight worksheet

1. How much would a 10 Kg suitcase weigh on the surface of...?
  - a. The Moon      **16 N**
  - b. Mars            **37 N**
  - c. Saturn          **90 N**
  - d. Pluto           **6 N**
2. How much would a 25 Kg suitcase weigh on the surface of...?
  - a. Mercury        **95 N**
  - b. Venus           **220 N**
  - c. Jupiter          **577.5 N**
  - d. Uranus          **217.5 N**
3. What would be the mass of a 10 Kg suitcase be on...?
  - a. Mercury        **10 Kg**
  - b. Venus           **10 Kg**
  - c. Neptune        **10 Kg**
4. Which place in the above table will it be easiest to stand up? Why? **Pluto, gravity is weakest**
5. On which place from the table above would you have...?
  - a. The most weight      **Jupiter**
  - b. The most mass        **N/A: mass would be the same on every one**
6. If you stood on Mars and had to pick up a 15 Kg pack, you would have to pull with a force greater than...?      **55.5 N (this is the force of weight on the pack)**
7. If a 60 Kg person was standing on a platform at the surface of Saturn and they jumped, they would have to push with a force greater than...?
 

**540 N (this is the force of weight on the person)**
8. The Curiosity rover on Mars has a weight on Mars of 3,330 N. What is its mass?
 

**mass = weight/g = 3330/3.7 = 900 Kg**
9. A 60 Kg person standing on the dwarf planet Ceres would weigh 16.2 N. What is the strength of gravity on the surface of Ceres?      **g = weight/mass = 0.27 N/Kg**
10. Jupiter is made of gas (like Saturn, Uranus and Neptune). What would happen to the strength of gravity if you...?
  - a. Moved away from Jupiter      **It would get weaker**
  - b. Fell in to Jupiter                **It would get stronger**

