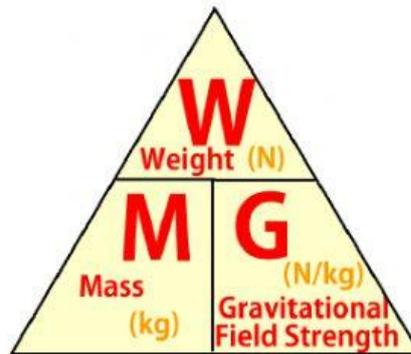


# Practice weight mass and gravity

This sheet will let you practice converting between weight mass and gravity. Use the equation triangle on the left to help you answer the following questions. Be mindful of the units you are working in, and the units required of your answer.

Planet	Acceleration due to gravity N/kg
Mercury	4
Venus	9
Earth	10
Mars	4
Jupiter	26
Saturn	11
Uranus	11
Neptune	14



- 1) The mars rover has a mass of 1025kg. How much will it weigh on Earth? Answer in N.
- 2)How much will the Mars rover weigh on Mars? Answer in N.
- 3) The Galileo probe was a probe sent by NASA to crash into a planet in our solar system. The probe had a mass of 2223kg and weighed 57798N when it crashed. Which planet did it crash into to?
- 4) Neil Armstrong was the first man to walk on the moon. If he had a mass of 90kg and weighed 144N when on the moon, what is the gravitational field strength on the moon? Answer in N/kg.
- 5)Buzz Aldrin was the second man to walk on the moon. If weighed 850N on Earth, what was his mass? Answer in kg.
- 6) Laika was the first dog in space. They had a mass of 5000g. What was Laika's weight on Earth in Newtons. Answer in N.
- 7) The Apollo 11 rocket had a weight of 288kN while on Earth. What was its mass? Give your answer in kg.
- 8) A Falcon heavy rocket has a weight of 14207880N when on Earth. What is its mass? Answer in kg
- 9)What will the Falcon Heavy weigh on Mars?
- 10) While on the moon, Buzz and Neil dropped a feather and a hammer to show they accelerate to the floor at the same rate in the absence of air resistance. The feather weighed 13.1mN while on the moon. What was the feathers mass? Answer in g to 1 decimal place.