

Forces : W.S.-20

1) Define the following terms:

- a) mass -
- b) force -
- c) gravity -
- d) weight -
- e) net force -

2) The units for mass are _____. The units for force are _____.

3) If an object has no net force acting on it, what can be said about the speed of the object?

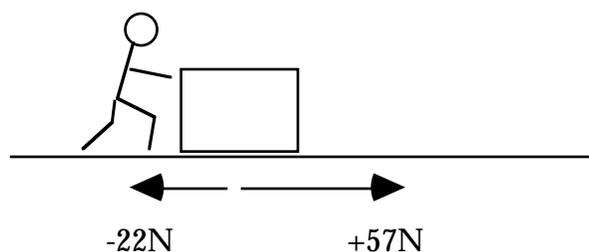
4) If the net force on an object is not zero, what three things may happen to the object?

5) The mass of an object is 3.5 kg on the Earth. Its weight on the Earth is _____. Its weight on the Moon is _____. Its mass on the Moon is _____.

6) The following horizontal forces act on an object; +3.4N, -5.1N, -8.4N, +10.9N, and -2.2N. Find the net force. _____.

7) The weight of an object on the Earth is 245 N. Its mass is _____.

8) A man pushes a box across the floor.



- a) The man pushes the box with a force of _____ .
- b) The force of friction is _____ .
- c) The net force is _____ .

9) The shuttle moves at a constant speed in a circular orbit about the Earth. Is the net force on the shuttle equal to zero? Explain.

Answers: 1)a) It is the quantity of matter., b) It is a push or a pull., c) It is the force of attraction between any two objects., d) It is the force of gravity acting on an object., e) It is the sum of all forces acting on an object., 2) kilograms, newtons, 3) The speed is constant., 4) The speed, direction of motion, or shape may change., 5) 34.3 N, 5.6 N, 3.5 kg, 6) -1.4 N, 7) 25 kg, 8)a) +57 N, b) -22 N, c) +35 N, 9) No., There is a net force because the direction of motion of the shuttle is changing. The force of gravity is acting on the shuttle.