Answer on Question 57891, Physics, Mechanics | Relativity

Question:

What is the mass of a $63.6\ lb$ object?

Solution:

By the definition of the weight of the object we have:

$$W = mg,$$

here, $W = 63.6\ lb$ is the weight of the object (in the British system of units, the unit of force is the pound, lb); m is the mass of the object (in the British system of units, the unit of mass is the slug), g is the acceleration due to gravity (in the British system of units $g = 32\ ft/s^2$).

From this formula we can find the mass of the object:

$$m = \frac{W}{g} = \frac{63.6\ lb}{32\ ft/s^2} = 1.99\ slug.$$

Answer:

$m = 1.99\ slug.$