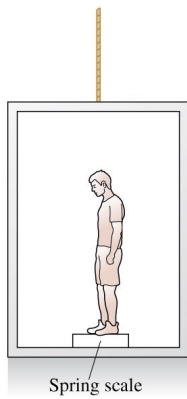


Weight, Apparent Weight, Weightlessness

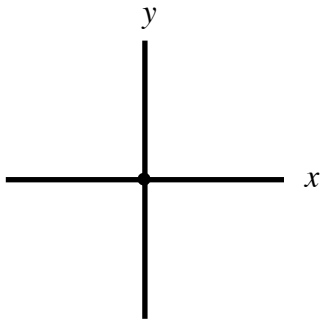
The weight of an object is the magnitude of the gravitational force acting on it.

The *measured* or *apparent weight* refers to the reading on a scale.



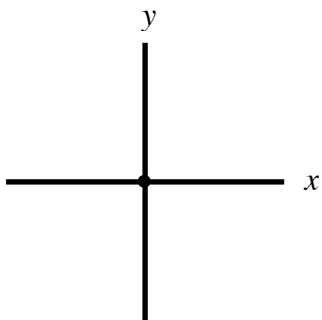
Example:

A person of mass m stands on a bathroom scale while riding the elevator (see Figure). What is the reading on a scale if the elevator is accelerating?

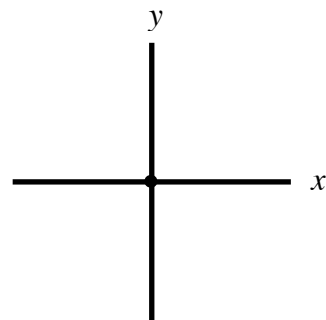


Different scenarios.

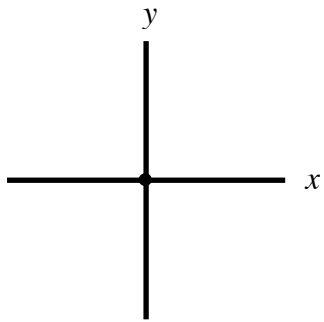
case 1: no acceleration



case 2: upward acceleration



case 3: downward acceleration



case 4: free-fall

