**Answer on Question #48207, Physics, Mechanics - Kinematics - Dynamics**

*An object placed on a scale is riding in an elevator. What is the measurement of mass taken by an observer in the elevator if the mass of the object at rest is 45.6 kg? Assume that the acceleration of the elevator is directed upward and is equal to 2.72 m/s2.*

By the second Newton's law:

$$N - mg = ma \rightarrow N = m(g + a)$$

The measurement of mass will be:

$$N = 45.6kg \cdot \left(9.81\frac{m}{s^2} + 2.72\frac{m}{s^2}\right) = 571N$$

**Answer:** $N = 571N$