ORIGINAL INPUT PASSAGE

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For an object of constant mass observed in an inertial reference frame, the resultant force equals mass multiplied by acceleration. A resultant force of 6 N acting on an object of mass 2 kg gives an acceleration of 3 m/s² in the direction of that force. If the resultant force is zero, acceleration is zero; the object can still have a constant nonzero velocity. With the same nonzero resultant force, doubling the mass halves the acceleration. Resultant force means the vector sum of the external forces, not necessarily the force from one individual interaction.