

UNIVERSITY OF ALABAMA
Department of Physics and Astronomy

PH105 / LeClair

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Quiz 3: Force

Force equals mass times acceleration

1. A large box is being pushed across the floor at a **constant speed** of 4.0 m/s. What can you conclude about the forces acting on the box?
 - If the force applied to the box is doubled, the constant speed of the box will increase to 8.0 m/s.
 - The amount of force applied to move the box at a constant speed must be more than its weight.
 - The amount of force applied to move the box at a constant speed must be equal to the amount of the frictional forces that resist its motion.
 - The amount of force applied to move the box at a constant speed must be more than the amount of frictional forces that resist its motion.
 - There is a force being applied to the box to make it move, but the external forces such as friction are not "real" forces, they just resist motion.
2. An object experiences no acceleration. Which of the following *cannot* be true for the object?
 - A single force acts on the object.
 - No forces act on the object.
 - Forces act on the object, but the forces cancel.
 - The object is at rest.
3. A ball rolls without slipping down incline A, starting from rest. At the same time, a box starts from rest and slides down incline B, which is identical to incline A except that it is frictionless. Which arrives at the bottom first?
 - the ball
 - the box
 - Both arrive at the same time
 - impossible to determine