Friction

Friction: The force that opposes motion. It is almost always negative. *f*

Kinetic Friction: Friction that occurs when an object is moving.

Static Friction: Friction that occurs when an object is stationary.

Generally, static friction is stronger than kinetic friction.

Coefficient of Friction (µ): The ratio between friction and the Normal Force. Scalar value (has no direction).

Ex1: A mass of 12kg is sitting on a table and there is a coefficient of friction of 0.34. A force of 12N pushed the box. Will it move?

*f=µFn Friction formula*

Ex 2: Using the information in example 1, what force needs to be applied to make the mass move?

Ex 3: Mr. Brick is trying to move a couch but it is an old couch and Mr. Brick is weak and can’t lift it off the ground so he lifting above the x axis with a force of 100.N @ 350 above the x axis. The mass of the couch is 17kg and the coefficient of friction is 0.1. Could Mr. Brick move the couch? If not, what force should he apply?

Example: What is the acceleration on a vacuum cleaner given that it has a mass of 5.1234kg and a 56.789N force is applied at a 23.50 below the horizontal?