

# Force and Free Body Diagrams

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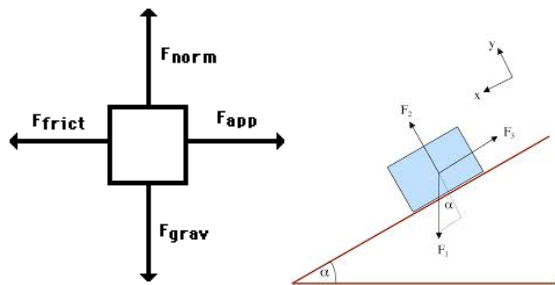
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## PART 1: FBDs

**Summary:** Free body diagrams are diagrams of all the forces acting on an object. Includes Force normal, Gravity, Force net, and Force resistance (friction).

**Tips and Tricks:** Make your FBD in pencil to avoid permanent mistakes. Be sure to include the angle of the surface your object is sitting on.

**Pictures:**



**You are to include:**

- A quick summary
- Tips and Tricks
- Pictures and drawings and graphs and diagrams
- All Formulas
- 2 Examples
- 1-5 Practice problems

## Force

$F = \text{MASS} * \text{ACCELERATION}$

Newton's Laws

Law 1- Object in motion stays in motion

Inertia- Resistance to change in motion

Law 2-  $F = ma$

Law 3- Every action has an equal and opposite reaction

Forces come in pairs

$F = G (M_1M_2/R^2)$