



Newton's three laws of motivation

I. Every individual in a state of apathy tends to remain in that state of apathy unless an external force is applied to it.

II. The relationship between the effort (f-ort) F an individual puts into their work, its motivation m and its aspirations a is $F = ma^*$.

* F and a are not vectors

III. For every action there is an equal and opposite distraction.

Newton's Laws

Newton's First Law

An object in *uniform motion* will remain in uniform motion unless acted on by an *unbalanced force*.

Inertia...



Free Body Diagrams (FBD)

A Free Body Diagram (FBD) is a diagram drawn to allow us to isolate and show all the forces **acting on the object**. Any forces generated by the object are left out.

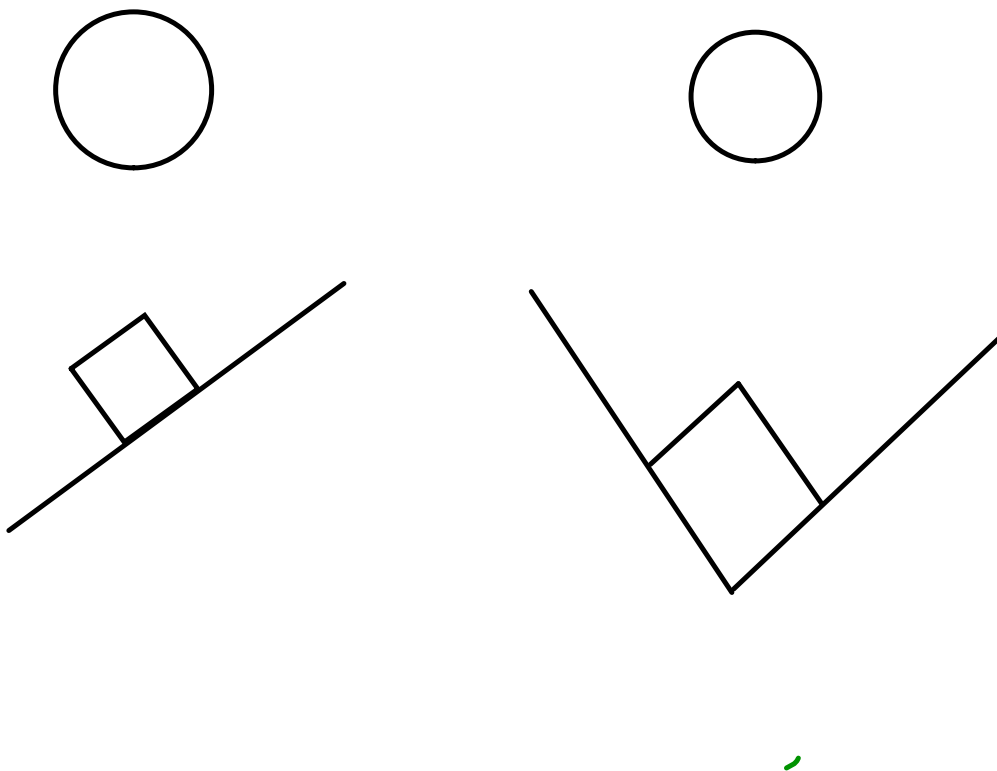
The object is **a box**.

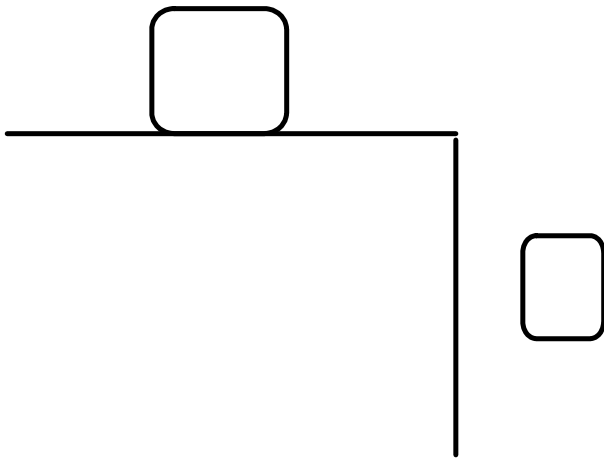
Draw the **surface** if there is one.

Draw all forces coming **out** of the box.

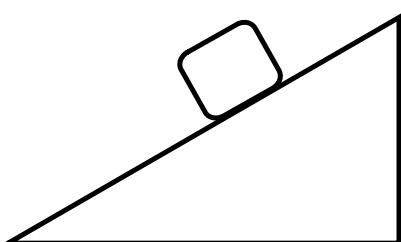


Draw FBD of the **lead dog**, **the sled**, and the **person pushing** from behind.

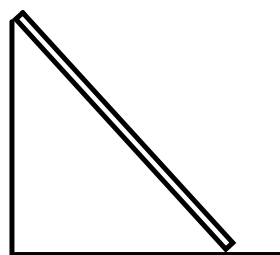




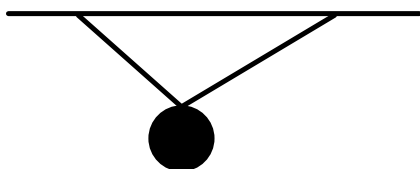
7.



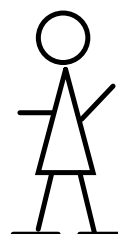
8.



9.



10.



A person sitting on a chair has a duck on their head.
Draw FBD of the **duck**, **the person**, and the **chair**.

Draw the FBD of an **aircraft** in level flight with **uniform motion**

Draw the FBD of a **rocket** accelerating in space

Draw the FBD of a **rocket** moving with uniform motion in space

Draw the FBD of a **curling stone** moving right and slowing down.

Hmwk: p. 151 #33 (omit F_{net} statements)
(Draw the FBD of the first object in the sentence.)

 <http://www.glenbrook.k12.il.us/GBSSCI/PHYS/Class/newtlaws/u2l1d.html>

Flying Pig

