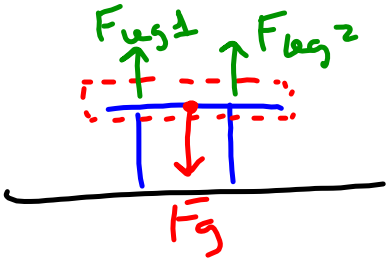
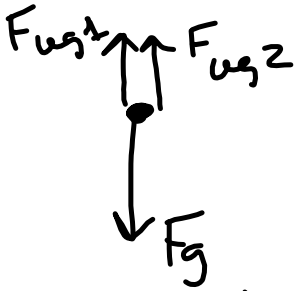
Forces Reading

- Important Points
  - Force is a push or pull
  - Types of forces:
    - Magnetic
    - Electric

    } electromagnetic
    - Friction
    - Tension
    - Gravity
    - Thrust
    - Lift
    - Buoyant
    - Drag

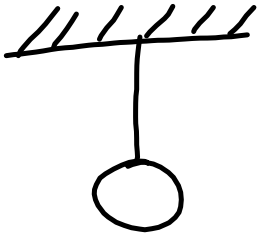
- Diagrams
  - Force Diagrams → forces on an object as they really happen

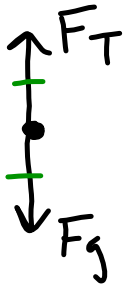




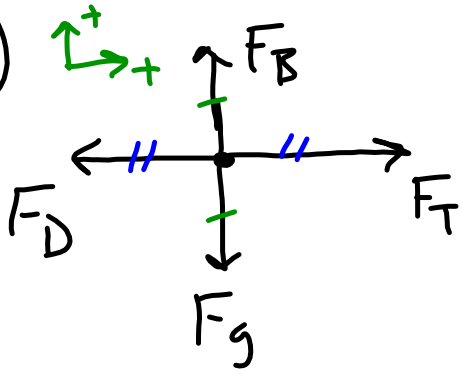
  - Free-Body Diagram (FBD) → dot represents object; we draw forces from dot

Free-Body Diagrams (Worksheet 1b)





(tension)

1) 

(or F_A or F_P)

$\Sigma \vec{F}_x = \emptyset$

$F_T - F_D = \emptyset$

$F_T = F_D$

$\Sigma \vec{F}_y = \emptyset$

$F_B - F_g = \emptyset$

$F_B = F_g$

Is the object accelerating?

- No → this happens when object is at rest or moving with constant velocity
  → Forces in opposite directions are balanced
  → $\Sigma \bar{F} = \emptyset$

Greek capital sigma → means "sum of"

$\Sigma \bar{F}_x = \emptyset$ $\Sigma \bar{F}_y = \emptyset$

- YES → object accelerates in the direction of the unbalanced force