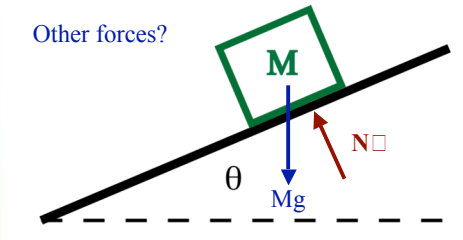
- Sit anywhere. Assigned seats will start this Friday.
- REMINDER: Pset#1 due here tomorrow at start of class.
- Last Lecture
  - Static equilibrium examples $\sum \vec{F} = 0$
  - Brief introduction of a few forces.
- Today
  - Free-body diagrams
  - Examples, examples, examples…
  - More discussion of specific types of forces.
- Important Concepts
  - Free-body problem checklist
  - Think carefully about which forces are "known"

- Problem Solving Tool: Free-Body Checklist
  - Draw a clear diagram of (each) object
  - Think carefully about all of the forces on (each) object
  - Think carefully about the angles of the forces
  - Chose an axis, put it on your drawing
  - Calculate components: $\sum F_x = 0 \quad \sum F_y = 0 \quad \left\{\sum F_z = 0\right\}$
  - Solve…

  - Note: We will generalize this for moving objects later on.

Other forces?



One of the most common mistakes is forgetting that N can vary depending on the physical situation.

Summary

- Practice the free-body and component checklists and the guidelines for setting up static equilibrium problems. Don't try to remember special cases, each problem is different!

- Some forces (for example, the normal force) will rarely be given but, instead, will usually be found using sums of forces. It's very dangerous to try to "guess" or "memorize" their values.