

October 1 2013

Physics 131

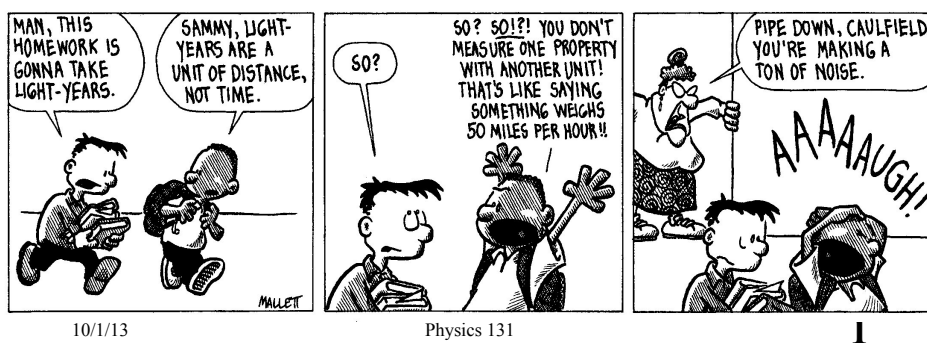
Prof. E. F. Redish

■ **Theme Music: Blue Man Group**

Tension 2

■ **Cartoon: Jef Mallett**

Frazz



Exam


- In class Thursday 2:00-3:20.
- Covers all readings through today.
- Footholds to be covered will be posted this afternoon as “Lecture Notes” for Thursday.
- Solution to Sample Exam problems will be posted this evening.
- Course center hours this week as usual.
- Q&A session here Wednesday 5-6:50

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Foothold Principles Newton's Laws



- Newton 0:
 - An object responds to the forces it feels when it feels them.
- Newton 1:
 - An object that feels a net force of 0 keeps moving with the same velocity (which may = 0).
- Newton 2:
 - An object that is acted upon by other objects changes its velocity according to the rule $\vec{a}_A = \vec{F}_A^{net} / m_A$
- Newton 3:
 - When two objects interact the forces they exert on each other are equal and opposite. $\vec{F}_{A \rightarrow B}^{type} = -\vec{F}_{B \rightarrow A}^{type}$

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Kinds of Forces

- Forces are what objects do to each other when they interact.
- Types of Force
 - Normal: N – Weight: W
 - Tension: T – Electric: F^E
 - Friction: f, F^D, F^V – Magnetic: F^M
- Notation convention.

$$\vec{F}_{(\text{object causing force}) \rightarrow (\text{object feeling force})}^{\text{type of force}}$$

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