

Statics Supplemental Instruction Worksheet One

1. Sort the units activity (see PowerPoint).

2. What is the gravity constant in SI units? What is the gravity constant in Imperial units?

3. Gravity is...

A) Velocity

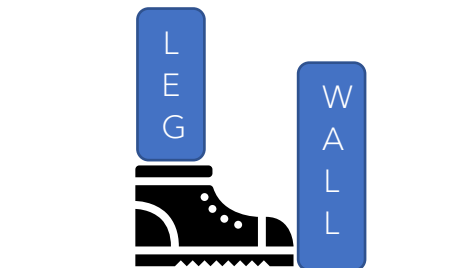
B) Acceleration

C) Fake

D) Distance

4. Let me preface this by saying, never cheat...BUT a super helpful strategy when beginning a tough course is to start a "cheat sheet" before you really learn anything too difficult. Think of this piece of paper/pdf/doc as your **fake** exam notes, an equation sheet, or like a super quick summary of a chunk of the course. Throughout the semester of SI, we will write down important relationships, equations, etc. so you can have a quick guide to help you through homework and studying. Bring this paper/pdf/doc to each SI so you can keep adding the most important stuff every week.

5. I'm dragging my feet (on a frictionless surface) to my 8am and run into a wall. Draw a FBD of the tragedy at the exact instant I am no longer moving.



6. Using the same situation as problem 5, what are the forces acting in the Y direction? What about the X direction? **STOP HERE FOR A WHILE.** What is the sum of forces in the Y direction? What is the sum of forces in the X direction?

7. I decided to go ~extreme~ sledding, so I found a huge hill and built a snow ramp at the bottom. I sled down the hill, jump the ramp, and my sister takes a picture of me. If I zoom off the hill with a force of 100 LBS, and my trajectory in the photo was 30° from the horizontal, what are the X and Y components of my force?

