AP Physics 1

Ch 4.1 Homework Hints

Problem 2

* Use F = ma but you need to find a from equations of constant acceleration (no we haven’t forgotten about them)

Problem 3

* Straightforward application of Newton’s 2nd law – just pay attention to what you are plugging in where and make sure to show your work (equations)

Problem 5

* Convert pounds to Newtons
* Find the mass and then use that to figure out the weight on the moon and Jupiter

Problem 6

* We have force and mass, so we can figure out. . .
* Then it’s a constant acceleration problem
* Make sure to be consistent with units

Problem 10

* What is the bullet’s velocity at the very beginning (before anyone pulls the trigger?)
* Equation of constant acceleration
* Apply Newton’s 2nd

Problem 17

* Watch the “Hanging a physics sign” video for an example like this
* Two equations – 2 unknowns

Problem 19

* This problem is really like the hanging a physics sign video
* Two equations, two unknowns
* Be sure to keep each side consistent (don’t mix what’s vertical vs. horizontal)

Problem 21

* This problem is like the elevator problem
* Net force if it’s accelerating upward is going to be up
* Weight is going down so. . .
* For part b – which rope has more tension? Use that to do your calculations

Problem 24

* This is just a matter of doing your free body diagrams and paying attention to the forces acting on the spring scale

Problem 25

* This is also like the elevator problem
* Free body diagram of forces acting on the bucket, pay attention to net force and the directions of the forces

Problem 27

* Don’t let this problem stress you out
* If m and 2m were 100 and 200 g, what would you do
* Set up free body diagrams, pay attention to your forces

If you have questions, post on the google+ community page for help from classmates and from Ms. Knittig