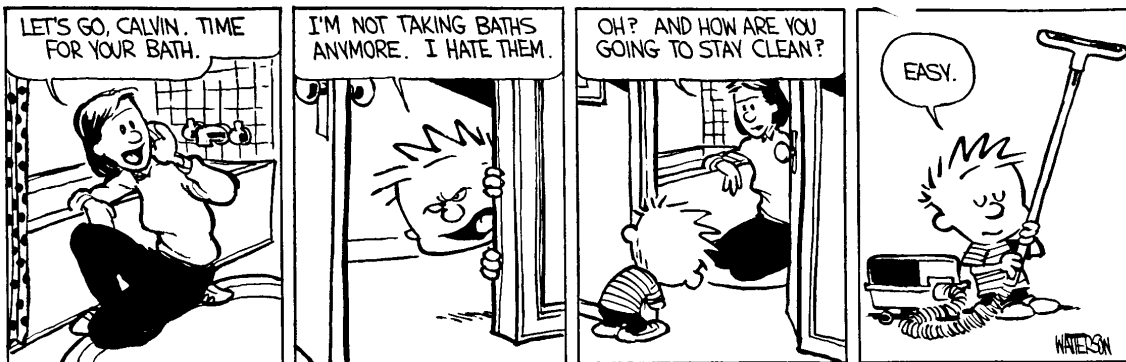


AP Physics – Newton's Laws – 4

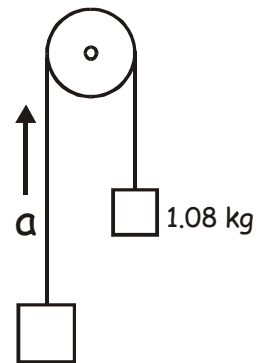
Is you who _____ Per _____



I am a marvelous housekeeper. Every time I leave a man I keep his house. -- Zsa Zsa Gabor

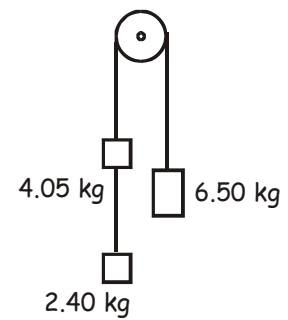
1. Okay, a small insect smashes into the windshield of your car while you are zooming down the interstate. (a) Which exerts the larger force; the bug on the car or the car on the bug? So how come? (b) Which experiences a larger acceleration; the bug or the car? How come?

2. A ultra low friction pulley deal is as shown. The two weights experience an acceleration of 0.450 m/s^2 . Find the mass of the second weight.



3. A big dump truck is at rest on a section of road that is at an angle of 5.00° to the horizontal. The truck's mass is 15 500 kg. What force must the brakes exert to keep the truck from rolling down the sloped road?

4. Three masses are connected by a light string that passes over a frictionless pulley as shown. (a) What is the acceleration of the system? (b) What are the tensions in the string?



5. A soccer ball is kicked at an angle of 32.5° with a velocity of 21.5 m/s . (a) draw a FBD of the thing. Good, now find: (b) the time of flight for the soccer ball, (c) the distance the ball travels, and (d) the height of the soccer ball after 1.50 s .

6. Find the tension in each cable supporting the 600.0 N cat burglar.

