

Physical Science – Homework #2

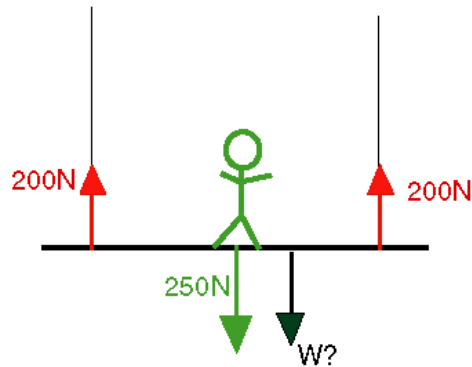
Chapter 2 – Think and Explain:

2. Correct your friend who says, "The race-car driver rounded the curve at a constant velocity of 100 km/h."

9. Why do you lurch forward in a bus that suddenly slows?
Why do you lurch backward when it picks up speed?
What law applies here?

10. Push a shopping cart and it moves. When you stop pushing, it comes to rest. Does this violate Newton's law of inertia? Defend your answer.

13. The sketch below shows a painting staging in mechanical equilibrium. The person in the middle weighs 250 N, and the tensions in each rope are 200 N. What is the weight of the staging?



16. Harry the painter swings year after year from his bosun's chair. His weight is 500 N and the rope, unknown to him has a breaking point of 300N. Why doesn't the rope break when he is supported as shown below? One day Harris is painting near a flagpole, and, for a change, he ties the free end of the rope to the flagpole instead of to his chair. Why did Harry end up taking his vacation early?

