

Name:	Period:
IPC – Schenck	Date:

Two Step Force Problems

Show all work for all problems! No work equals no credit!

1. A 50 kg boy runs in a race. He is going 23 m/s but gets a burst of energy and accelerated to a speed of 29 m/s in 3.5 seconds. What amount of force is needed to cause that amount of acceleration?
2. An astronaut on another planet witnesses an alien fruit fall from an alien tree. He uses his radar to find out that the fruit hits the ground at a speed of 30 m/s. If the fruit is found to have a mass of .45 kg, what is the force due to gravity on that planet? What is it's acceleration due to gravity?
3. If a force of 20 N is applied to a 10 kg door, what is the speed of the door right before it is shut if it takes 2.3 seconds to close?
4. If a student can move his pencil at a speed of .25 m/s while taking a test, how much force would the student exert on the pencil if all of a sudden he gets brainstorm and accelerates his writing to .75 m/s in .45 s?
5. What would be the force applied to an object if the object accelerates from 50 m/s to 75 m/s in 20 s?