

Name:

Period:

Forces in One Dimension 1

Show all work including the equations and substitution with units.

$$\text{Use } g = 9.81\text{m/s}^2$$

- 1) An object of Mass 70kg is accelerated by a force of 20N. What is its acceleration?

- 2) What is the mass of an object that is accelerated at 25m/s^2 by a force of 125N?

- 3) A 75kg person traveling at a constant velocity on ice skates experiences a force of -40N. What is the person's acceleration?

- 4) A mass of 56kg weighs 504N on top of a mountain. What is the value of g at that location?

- 5) A student has a mass of 68kg. What is the student's weight?

- 6) A ball acquires a speed of 12m/s when a force is applied for a distance of 0.50m. If the ball has a mass of 1.0kg, what is the force applied?

- 7) A car with a mass of 1200kg starts from rest and travels 50m in 3.0s. Your car undergoes uniform acceleration during the 3.0s. What is the unbalanced force on your car? (Write your answer in Scientific Notation.)