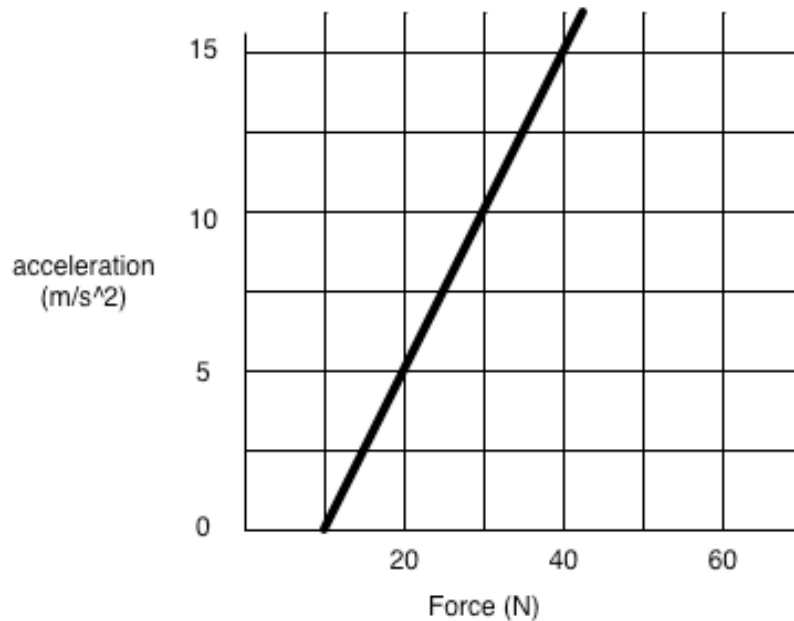


Force Graphing

Name: _____

Date: _____

Period: _____



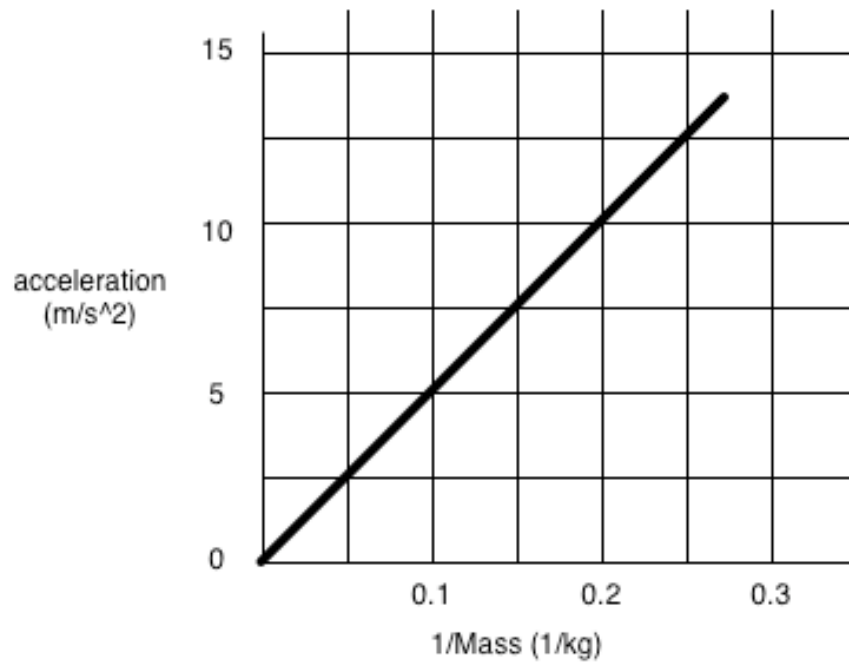
1) The graph above shows the acceleration of an object with mass m_1 , as a function of the force applied to it.

a) What is the mass of the object?

b) What physical reasons can you give for the fact that the graph does not pass through the origin?

c) If the experiment were repeated again with a different object, mass= m_2 , and the resulting slope of the line was greater, which mass must have been larger, m_1 or m_2 ?

d) If an object with $\frac{1}{4}$ the mass of m_1 were acted on by an 80 N force, what acceleration would you expect to observe? Why?



2) The graph above shows another graph of a different experiment.

a) Based on the graph, what kind of experiment was performed? What physical quantities were involved? Which variables were changed and what was likely held constant?

b) What force produced an acceleration of 5 m/s²? What force produced an acceleration of 10 m/s²?

c) If the force applied in the experiment was decreased, would the slope of the line increase or decrease? Why?

d) If the force applied in the experiment was doubled, what mass object would have an acceleration of 10 m/s²?