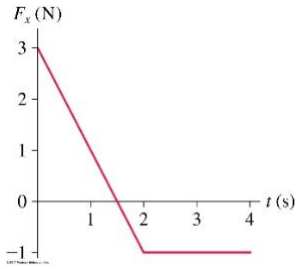
Phys 2320 Spring 2023 Problems related to Workshop 4
Main topic: relationship between force and acceleration

A single force with *x*-component F_x acts on a 2.0 kg object as it moves along the *x*-axis. A graph of F_x versus t is shown below. Draw an acceleration graph (a_x versus *t*) for this object. (Problem 5.31 from Knight 4th Edition)



A constant force is applied to an object, causing the object to accelerate at 8.0 m/s^2. What will the acceleration be if: a) the force is doubled? b) the object's mass is doubled? c) the force and the object's mass are both doubled? d) the force is doubled and the object's mass is halved? (Problem 5.33 from Knight 4th Edition) Answers: (16 m/s^2, 4 m/s^2, 8 m/s^2, 32 m/s^2)