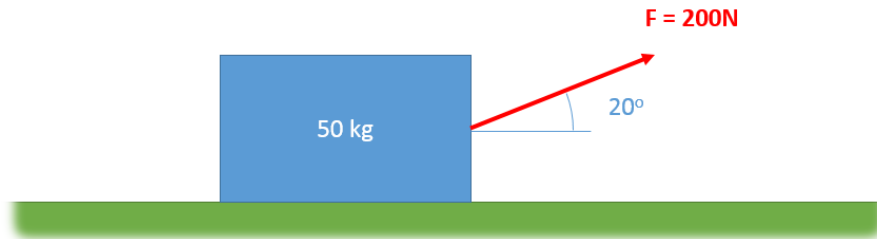


## Chapter 8 Homework Problems

### Problem 8.1

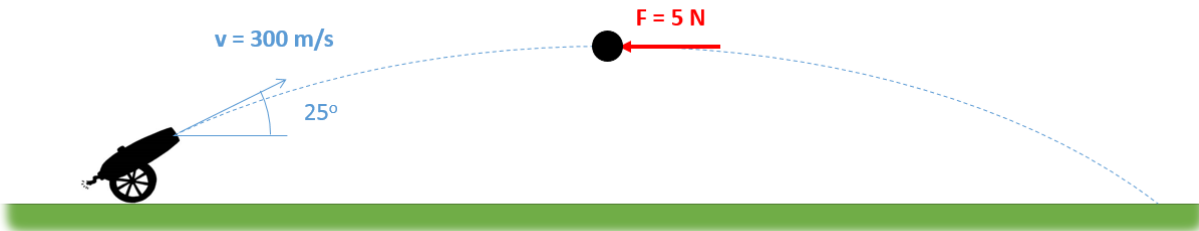
A 50kg box is being pulled across a surface by a 200 N force in the direction shown below. If the static coefficient of friction is .3, what is the rate of acceleration of the box and how far will the box move in a three second period?



(Solution:  $a = 1.23 \text{ m/s}^2$ ,  $s = 5.52 \text{ m}$ )

### Problem 8.2

A three-kilogram cannonball is shot out of a cannon with an initial velocity of 300 m/s at a  $25^\circ$  angle. A headwind exerts a constant 5 N horizontal force. How far will the cannonball travel before horizontally hitting the ground?



(Solution:  $d = 6470 \text{ m}$ )

