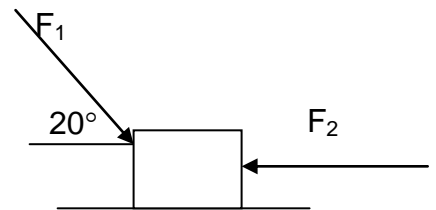


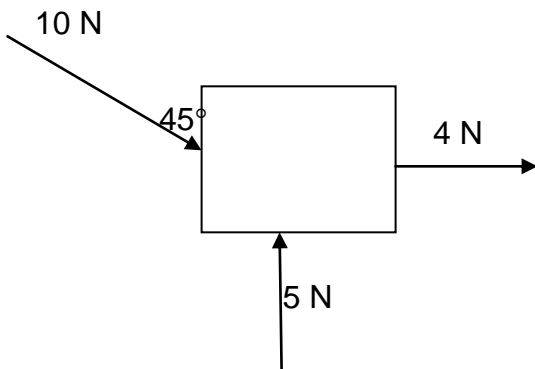
2- D Force Problems

1. Huckleberry Finn is going down the Mississippi River on a raft. The mass of Huck and the raft is 300 kg. He paddles and creates a force, P , of 200 N due east. The wind produces a force of 100 N 35 degrees N of W. The current produces a force of 15 N due South. What is the net force (magnitude and direction) of the raft? What is the acceleration (magnitude and direction) of the Huck and the raft?

2. Two Force act on a 3 kg block sitting on the floor (see drawing). One force, F_1 , has a magnitude of 12 N and the second force, F_2 , has a magnitude of 22 N. What is the net horizontal acceleration of the block (magnitude and direction)? What is the displacement of the block after 3 seconds if it starts from rest?



3. Three Forces act on a 5 kg object as shown in the picture. Find the net force and acceleration on the object.



- 1) 125.5 N @ 13.6° , 0.345 m/s² @ 13.6° ; 2) 10.7N left, 3.57 m/s² left, 16.1 m left; 3) 11.3 N @ -10.6° , 2.66 m/s² @ -10.6°