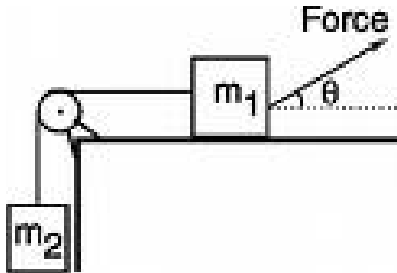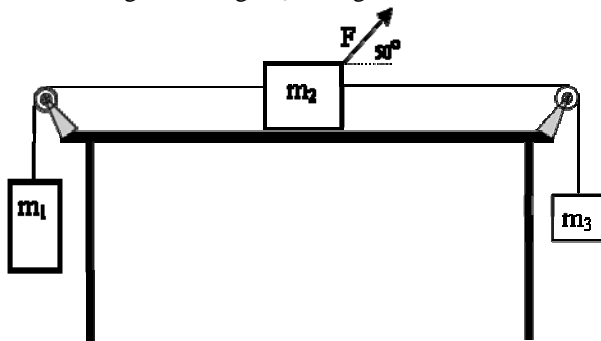**Combined Topic Force Problems**

Solve the following problems
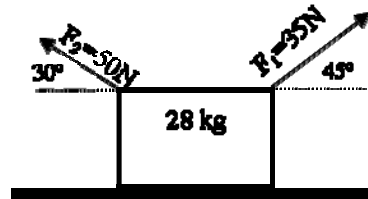
1. With what force must a person pull to keep the system in equilibrium based on the fact $m2 = 40$ kg, $m1 = 50$ kg, the force is applied at 30º, and there is no friction?

2. If $m_1 = 40$ kg, $m_2 = 45$kg, $m_3 = 25$ kg, and F=200 N what is the acceleration of the system?

3. Based on the picture to the right, what is the acceleration of the mass?

$30°$ $F_2=50N$ $F_1=35N$ $45°$

28 kg

4. What is the acceleration of m_2 in the picture below assuming m_1=10 kg, m_2 = 18 kg, F_1 = 70N, and F_2 = 80N?

F_1 $50°$

m_2

m_1

$20°$

F_2