Math Problems:

1) Two Tourists paddled downstream for 2 hours and paddled upstream for 4 hours. The rate of the current was 4mph. When they stopped, they were 12 miles downstream from their starting point. How many hours will it take them to paddle back to their starting point?

2) On an island, the ratio between the number of adult men and the number of adult women is 2:3. In the same island, the ratio between the number of adults and the number of children under the age of 16 is 4:5. What is the ratio between the number of adult women and the number of children in the island?

3) Susan was standing near a 12ft tall pole and looking at the tip of the pole with an angle of 45*. If Susan herself is 5ft tall, calculate the distance between Susan and the pole.

4) A ball is kicked at an angle of 35° with the ground.
a) What should be the initial velocity of the ball so that it hits a target that is 30 meters away at a height of 1.8 meters?
b) What is the time for the ball to reach the target?
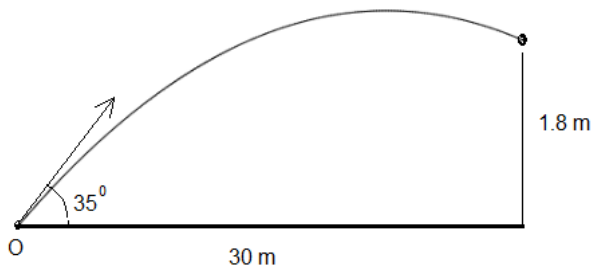
5) Moments after jumping out of his building from Stark HQ, Iron Man's 82.5-kg body (along with his suit) experiences 118 N of air resistance. Determine Iron man's acceleration at this instant in time. HINT: begin by drawing a free body diagram and determine the net force.