

Problem 7. Every Saturday morning, Bob and Alice, both of whom love bike riding, each leave their houses and ride towards each other at their own constant speeds until they meet. If they leave their houses at the same time, then they meet in 2 hours. If Bob leaves his house $\frac{1}{2}$ an hour *after* Alice leaves, then they meet 1 hour and 48 minutes after Bob leaves. One Saturday morning Alice is ill and cannot ride. Bob decides to ride his bike to her house to visit her. How much time does it take Bob to ride from his house to Alice's?

Solutions due by 12:00 noon, Monday, March 3.