Exponential Functions Worksheet

Name _____

January 18, 2007

The day before Valentine's Day, a store has 400 red roses and 200 boxes of chocolate. After the store opens at 9 a.m., half of the available roses are bought every two hours, and 15% of the boxes of chocolate are bought every hour.

1. Find a formula for the number of red roses left t hours after the store opens.

2. Find a formula for the number of boxes of chocolate left t hours after the store opens.

3. At what time are there equal numbers of red roses and boxes of chocolate left in the store?

4. How many boxes of chocolate are left at 12:30 in the afternoon? Round your answer so it makes practical sense.

5. Suppose you want to buy that special someone 36 roses at this store. What is the latest you can arrive at the store and successfully make your purchase?