"There's nothing inside you. I invented you inside my head. For 12 years, I've been inventing you—I made you up."

— Sunny Balwani, The Droupout

Problem 1. (10pt) Louise just read *Remembrance of Things Past* by Marcel Proust, which is approximately 3,200 pages long. She kept careful track of the time she was at various pages. She found that she count model the amount of pages she had read, P, after t hours by $P(t) = 65t$.

(a) Find and interpret the slope of $P(t)$.

(b) Find and interpret the y-intercept of $P(t)$.

(c) How long did it take her to read this work?

Problem 2. (10pt) Suppose that the number of people, N that have ridden the subway t hours after 8:00 am can be modeled by $N(t) = 8429t - 1008$.

(a) Find and interpret the slope of $N(t)$.

(b) Does the y-intercept of $N(t)$ have an interpretation in the context of this problem? Explain.

(c) Find the number of people that have ridden the subway by 5 pm.