

Coffee shop, part 2

A coffee shop is open every day. On weekdays, sales are approximately normal with a mean of \$1500 and a standard deviation of \$200. On the weekends, sales are approximately normal with a mean of \$1500 and a standard deviation of \$500. The rent costs \$2500 weekly, labor costs \$2000 weekly, food costs \$1750 weekly, and other expenses amount to \$2500 weekly.

Use simulation (unless otherwise specified) to answer the following questions:

- 1) In any given week, what is the probability that the restaurant is making money?
- 2) What is the probability that they lose money in December?
- 3) What is the yearly expected profit of the business? [Assuming all costs remain constant.]