MATH 100 Practice Exercises

1. A long-distance telephone company charges $0.40 to place a call from LA to London and an additional $0.30 for each minute.

   a. Write an equation of a linear function that models this situation. Identify the meanings of any variables you introduce.

   b. In the context of this situation, what is the practical significance of the slope?

   c. In the context of this situation, what is the practical significance of the vertical intercept?

   d. What is the cost of a 25-minute call?

2. In 1980 (when t = 0) about $26 billion were spent on water pollution prevention and cleanup in the US. In 1990, about $31 billion were spent.

   a. Assume that we can represent the amount spent on water pollution prevention and cleanup in the US from 1980 to the present by a linear function. Write a rule for a linear function giving the amount spent on water pollution prevention and cleanup as a function of time t, where t = 0 in 1980. (t represents the number of years since 1980.) Identify the meaning of any variables you introduce.

   b. Show how to use your linear function to estimate the amount spent on water pollution prevention in 1988.