LATE TO CLASS AGAIN? EXERCISES

Suppose the travel times for a particular student from home to school are normally distributed with mean 20 minutes and standard deviation 4 minutes. Each day during a five-day school week she leaves home 30 minutes before class. For each of the following problems, write a short Monte Carlo simulation function to compute the probability or expectation of interest.

1) Find the expected total traveling time of the student to school for a five-day week. Find the simulation estimate and give the standard error for the simulation estimate.

2) Find the probability that the student is late for at least one class in the five-day week. Find the simulation estimate of the probability and the corresponding standard error.

3) On average, what will be the longest travel time to school during the five-day week? Again find the simulation estimate and the standard error.