**2.** Based on FAA estimates the average age of the fleets of the ten largest U.S. commercial passenger carriers is 13.4 years with a standard deviation of 1.7 years. Suppose that 40 airplanes were randomly selected from the fleets of these ten carriers and were inspected for cracks in the airplanes that are considered too large for flying. What is the probability that the average age of these 40 airplanes is at least 14 years old?

[use the following formula to get the z-value: where, is the sample, µ is the population mean, 's' is the sample standard deviation, and 'n' is the sample size]. Use the z-value to find the probability value in the standard normal table. Keep in mind that 'at least' show a cumulative probability.

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**3.** Roxanne is a frequent business traveler, going back and forth from LA to Chicago several times per month. To catch her flights from LA she leaves her office one hour before her flight leaves. Her travel time from her office to the departing gate at LA airport includes driving to the airport, parking, check-in, and passing the security checking. The travel time is normally distributed with a mean of 45 minutes and a standard deviation of 5 minutes. A) what is the probability that Roxanne will miss her flight when her travel time from office to the LA airport exceeds one hour?

[use probability, probability & probability distributions, normal in Phstat or use probability, continuous probability in Megastat].