1) The average gas mileage of a certain model car is 30.0 miles per gallon. If the gas   1) _____
mileages are normally distributed with a standard deviation of 0.75 miles per gallon, find
the probability that a car has a gas mileage of between 29.8 and 30.2 miles per gallon.
    A) 0.287   B) 0.213   C) 0.273   D) 0.107

2) A certain car model has a mean gas mileage of 29 miles per gallon (mpg) with a standard   2) _____
deviation 3 mpg. A pizza delivery company buys 49 of these cars. What is the probability
that the average mileage of the fleet is greater than 28.8 mpg?
    A) 0.6808   B) 0.6064   C) 0.2514   D) 0.7486

3) A ferry will safely accommodate 68 tons of passenger cars. Assume that the mean weight   3) _____
of a passenger car is 1.8 tons with standard deviation 0.5 tons. If a random sample of 35
cars are loaded onto the ferry, what is the probability that the maximum safe weight will
be exceeded?
    A) 0.9545   B) 0.0455   C) 0.0505   D) 0.0594

4) A sample of size 80 will be drawn from a population with mean 23 and standard   4) _____
deviation 13. Find the probability that $\bar{x}$ will be between 22 and 25.
    A) 0.0844   B) 0.6699   C) 0.6944   D) 0.2457

5) A sample of size 48 will be drawn from a population with mean 20 and standard   5) _____
deviation 5. Find the probability that $\bar{x}$ will be greater than 21.
    A) 0.1093   B) 0.0823   C) 0.9177   D) 0.0571

6) A sample of size 47 will be drawn from a population with mean 25 and standard   6) _____
deviation 5. Find the probability that $\bar{x}$ will be less than 26.
    A) 0.9147   B) 0.8869   C) 0.9292   D) 0.0853

7) The mean annual income for people in a certain city (in thousands of dollars) is 38, with   7) _____
a standard deviation of 33. A pollster draws a sample of 39 people to interview. What is
the probability that the sample mean income is between 36 and
40 (thousands of dollars)?
    A) 0.7039   B) 0.2961   C) 0.6480   D) 0.3520

8) The average age of doctors in a certain hospital is 43.0 years old. Suppose the   8) _____
distribution of ages is normal and has a standard deviation of 8.0 years. If 25 doctors are
chosen at random for a committee, find the probability that the average age of those
doctors is less than 43.8 years. Assume that the variable is normally distributed.
    A) 30.9%   B) 69.2%   C) 53.2%   D) 19.2%

1) B
2) A
3) B
4) B
5) B
6) A
7) B
8) B