It is known that IQ scores form a normal distribution with $\mu = 100$ and $\sigma = 15$. What proportion of IQ scores are:

- greater than 120?
- less than 95?
- between 70 and 100?
- greater than 130 or less than 70?

The distribution of scores on the SAT is approximately normal with a mean of $\mu = 500$ and a standard deviation of $\sigma = 100$. For the population of students who have taken the SAT,

- What proportion have SAT scores greater than 700?
- What proportion have SAT scores less than 550?
- What proportion have SAT scores between 400 and 600?

Information from the Department of Motor Vehicles indicates that the average age of licensed drivers is $\mu = 45.7$ years with a standard deviation of $\sigma = 12.5$ years. Assuming that the distribution of drivers' ages is approximately normal,

- What proportion of licensed drivers are older than 50 years old?
- What proportion of licensed drivers are younger than 30 years old?

A consumer survey indicates that the average household spends $\mu = \$185$ on groceries each week. The distribution of spending amounts is approximately normal with a standard deviation of $\sigma = \$25$. Based on this information,

- What proportion of the population spends more than \$200 per week on groceries?
- What is the probability of randomly selecting a family that spends less than \$150 per week on groceries?

On a specific standardized maze problem, rats commit an average of $\mu = 40$ errors before they finally solve it. The distribution of these error scores is approximately normal with a standard deviation of $\sigma = 8$ errors. A researcher is testing the effect of a new dietary supplement on intelligence. A newborn rat is selected at random and is given the supplement daily until it reaches maturity. The rat is then tested on the maze and finishes with a total of 24 errors.

What is the probability that a regular rat (without the supplement) would solve the maze with a score less than or equal to 24 errors?