1. A toy manufacturer wants to see how long, on average, a new toy captures children's attention. He tests children selected at random and finds that their mean attention span is minutes with a standard deviation of minutes. If we assume that attention spans are normally distributed, find a confidence interval for the mean attention span of children playing with this new toy. Then complete the table below.

Carry your intermediate computations to at least three decimal places. Round your answers to one decimal place.

**What is the lower limit of the confidence interval?**

**What is the upper limit of the confidence interval?**

2. Seventy million pounds of trout are grown in the U.S. every year. Farm-raised trout contain an average of grams of fat per pound, with a standard deviation of grams of fat per pound. A random sample of farm-raised trout is selected. The mean fat content for the sample is grams per pound. **Find the probability of observing a sample mean of grams of fat per pound or less in a random sample of farm-raised trout.**

Carry your intermediate computations to at least four decimal places. Round your answer to at least three decimal places.

3. According to a recent survey, the salaries of assistant professors have a mean of $ and a standard deviation of $. Assuming that the salaries of assistant professors follow a normal distribution, **find the proportion of assistant professors who earn at least $.** Round your answer to at least four decimal places.