9. The length of human pregnancies is approximately normal with a mean of 266 days and a standard deviation of 16 days. If you choose one pregnancy at random, find (where X is the length):

a) $P(270<X<280)$.

b) a length **a** so that $P(X>\mathbf{a})=80\%$.

c) If instead you choose 16 pregnancies, find $P(\overline{X}>270)$, where $\overline{X}$ is their empirical mean.

10. A random sample of 25 NHL games finds the average number of goals scored is 5.15 with a standard deviation of 1.95. If the number of goals is normal, find a 95% confidence interval for the average number of goals.