Pencil and Paper Exercises on Sampling Statistics

1. The scores of individual students on the American College Testing
Program (ACT), a university admission exam, follow the normal
distribution with mean of 18.6 and a standard deviation of 5.9
At one school 81 students participated in the test. Determine the
expected mean (sample mean) and standard deviation (standard
error) of groups of 81 students.

averages of size n are distributed $N(\mu, \sigma/\sqrt{n})$

ave. of size 81 have mean $= \mu = 18.6$, SE $= 5.9/\sqrt{81} = 5.9/9 = 0.66$