8.16. In statistics, concepts are often expressed in symbols and equations. For each of the following, (i) identify the incorrect symbol, (ii) state what the correct symbol should be, and (iii) explain why the initial symbol was incorrect:

1. Мlower =-z(σ) + Msample
2. d = M - µ

σМ

8.18. Twenty-two percent of Gallup respondents indicated suspicion of steroid use by athletes who broke world records in swimming. Calculate an interval estimate using a margin of error at 3.5%.

8.20. For each of the following confidence intervals, indicate how much of the distributions would be placed in the cutoff for a two-tailed test: (a) 80% (b) 85% (c) 99%.

8.24. Calculate the 99% confidence interval for the same fictional data regarding daily TV viewing habits: µ = 4.7 hours; σ = 1.3 hours; sample of 78 people with mean of 4.1 hours.

8.26. For a given variable, imagine we know that the population mean is 1014 and the standard deviation is 136. A mean of 1057 is obtained based on sampling. Calculate the z test statistic for this mean, assuming it was found using each of the following sample sizes: (a) 12 (b) 39 (c) 188.

8.28. Calculate the effect size for each of the following average SAT math scores. Remember, SAT math is standardized such that µ = 500 and σ = 100.

(a) 61 people sampled have a mean of 480 (b) 82 people sampled have a mean of 520 (c) 6 people sampled have a mean of 610.