4. For a distribution of raw scores, $\mu = 45$. The z-score for $X = 55$ is computed, and a value of $z = -2.00$ is obtained. Regardless of the value for the standard deviation, why must this z-score be incorrect?

6. For a population with $\mu = 100$ and $\sigma = 10$,

a. Find the z-score that corresponds to each of the following X values:

$X = 106$ $X = 125$ $X = 93$
$X = 90$ $X = 87$ $X = 118$

b. Find the raw score (X) for each of the following z-scores:

$z = 1.20$ $z = 2.30$ $z = -0.80$
$z = -0.60$ $z = 0.40$ $z = -3.00$

14. On a statistics exam, you have a score of $X = 73$. If the mean for this exam is $\mu = 65$, would you prefer a standard deviation of $\sigma = 8$ or $\sigma = 16$?

16. On a psychology exam with $\mu = 72$ and $\sigma = 12$, you get a score of $X = 78$. The same day, on an English exam with $\mu = 56$ and $\sigma = 5$, you get a score of $X = 66$. For which of the two exams would you expect to receive the better grade? Explain your answer.

18. A distribution of exam scores has $\mu = 90$ and $\sigma = 10$. In this distribution, Sharon's score is 9 points above the mean, Jill has a z-score of $+1.20$, Steve's score is ½ standard deviation above the mean, and Ramon has a score of $X = 110$. List the four students in order from highest to lowest score.