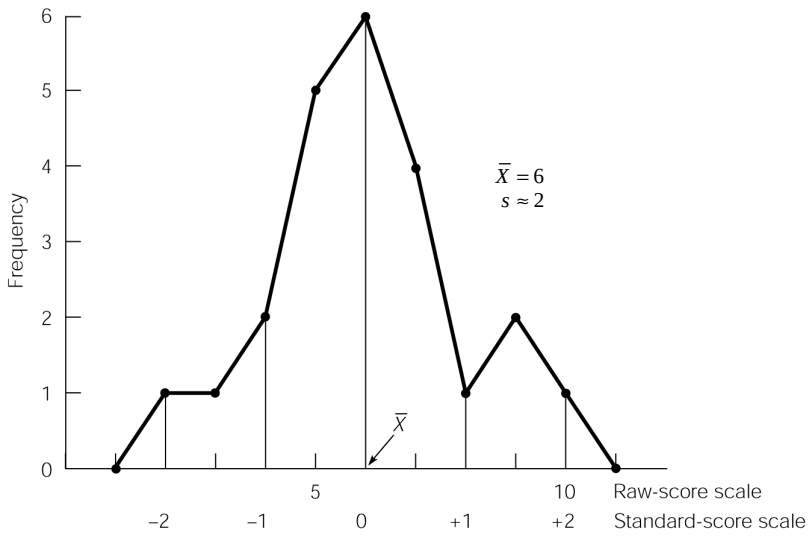
Problems

1. $AD = 1.45$, so Karl is correct; $R = 7$; $s_{approx} = 1.75$; $s^2 = 3.61$; $s = 1.90$

2. a. $R = 8$, $s_{approx} = 2$, $s^2 = 3.64$, $s = 1.91$

b.



Frequency polygon of correctly solved analogy problems showing both the raw-score scale and the standard-score scale.

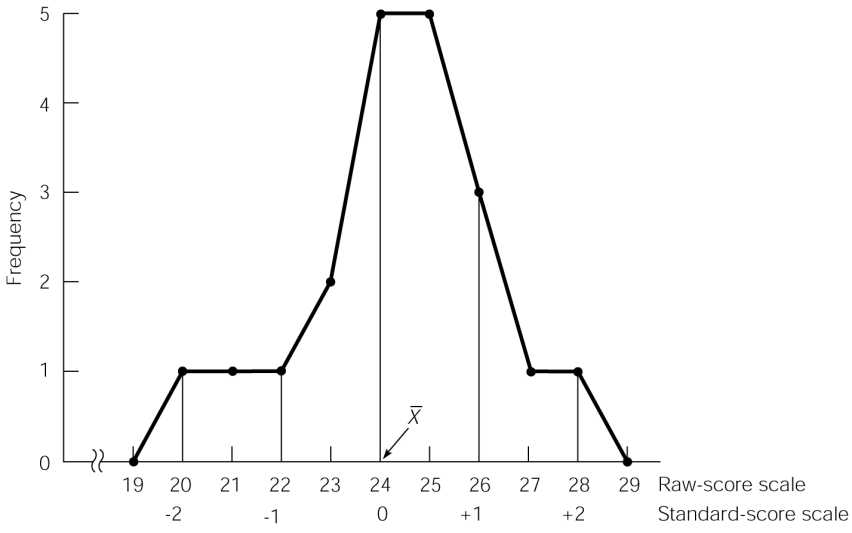
3. $R = 65$, $s_{approx} = 16.25$, $s^2 = 264.75$, $s = 16.27$, $z_{96} = 0.91$. The score 2 standard deviation units below $\bar{X}$ is 48.6.

4. $R = 4$, $s_{approx} = 1$, $s^2 = 1.62$, $s = 1.27$

5. $s_A = 0.16$, $s_B = 0.11$. Applicant B gets the job.

6. $\bar{X} = 74.33$, $s = 13.64$. All employees scoring less than 74.33 – 13.64 = 60.69 are required to take another week of training. Five employees scored less than 60.69.

7. $\bar{X} = 24.35$, $s^2 = 3.71$, $s = 1.93$



Frequency polygon showing both the raw-score scale and the standard-score scale.

8. a. $z_{3.75} = 1.42$
b. $z_{2.10} = -0.57$
c. A score of 1.3 is 1.53 standard deviation units below the mean.
d. $X = 4.02$
e. $X = 0.77$