Z-Score: Extra Practice

*Homework Grades - Unit 2*

95, 95, 85, 78, 18, 88, 100, 75, 95

1. Calculate the mean and standard deviation.

\[ \bar{X} = 81 \quad \text{and} \quad S_X = 25 \]

2. Calculate the z-score of the student who scored an 88% on HW. What does this number mean?

\[ Z = \frac{X - \bar{X}}{S_X} = \frac{88 - 81}{25} \]

\[ Z = 0.28 \]  **88% is 0.28 standard deviations above the mean.**

3. Based on the z-score, would you consider a score of 18% on HW unusual? Why or Why not?

\[ Z = \frac{18 - 81}{25} \]

\[ Z = -2.52 \]  **not unusual because it's in range (-3 to 3)**

4. Which student had a z-score close to 0.6?

\[ Z = \frac{X - \bar{X}}{S_X} \]

\[ 0.6 = \frac{X - 81}{25} \]

\[ 15 = X - 81 \]

\[ X = 96 \]

*The homework grade of 95%.*