Answer on Question #63521 – Math – Statistics and Probability

Question

A recent article in the Myrtle Beach Sun Times reported that the mean labor cost to repair a color television is $90.00 with a standard deviation of $22.00. Monte's TV sales and service completed repairs on two sets this morning. The labor cost for the first was $75 and it was $100 for the second. Compute the z values for each and comment on your findings.

Solution

$Z = \frac{x-\mu}{\sigma}$.

Z-scores are used to determine how far off a particular point in a distribution is from the mean.

So $Z_1 = \frac{75-90}{22} \approx -0.68,$

$Z_2 = \frac{100-90}{22} \approx 0.45.$

Z-scores are on opposite sides of the mean and the first one is much more far from the mean.

Answer: $Z_1 = \frac{75-90}{22} \approx -0.68, \quad Z_2 = \frac{100-90}{22} \approx 0.45.$