Answer on Question #76974 – Math – Statistics and Probability

Question

Sweets are packed into bags with a nominal mass of 75g. **Ten bags** are picked at random from the production line and weighed. Their masses, in grams are 65, 67, 45, 89, 45, 36, 86.3, 34.5 . Use **your calculator** to find the mean mass and the standard deviation.

Solution

$$\text{Mean} = \frac{65 + 67 + 45 + 89 + 45 + 36 + 86.3 + 34.5}{8} = 58.475\text{g} \cong 58.5\text{g}$$

$$\text{Standard deviation} = \sqrt{\frac{(65)^2+(67)^2+(45)^2+(89)^2+(45)^2+(36)^2+(86.3)^2+(34.5)^2}{8} - 58.475^2}$$

$$= 21.200 \ldots \text{g} \cong 21.2\text{g}$$

Answer

There is a mistake in the description of the problem. Only eight masses are given. Use your calculator $(n = 8)$ to check that $\sum x = 467.8$, $\bar{x} = 58.475$, $\sum x^2 = 30618.94$, and $s = 21.200 \ldots$.