

Answer on Question #82842 – Math – Statistics and Probability

Question

Pearson's coefficients of skewness for a distribution is 0.4, coefficients of variation is 30%, it's mode is 88. Find mean and median.

Solution

$Cv = \frac{\sigma}{\mu} = 0.3$, hence the standard deviation is $\sigma = 0.3\mu$.

$Sk = \frac{\mu - Mod}{\sigma}$, hence $0.4 = (\mu - 88)/(0.3\mu)$.

Thus, $0.12\mu = \mu - 88$, and $88 = 0.88\mu$.

Therefore, we got the mean:

$$\mu = 100.$$

Now,

$$Sk = \frac{3(\mu - Med)}{\sigma}$$

$\sigma = 0.3\mu = 30$, so $0.4 \cdot \frac{30}{3} = 100 - Med$, so median is equal to 96.

Answer: 100; 96.