

## ANSWER to Question #84625 – Math – Statistics and Probability

Given  $n = 15$ , mean = 8

$$\text{Mean} = \frac{\sum_{i=1}^{i=n} x_i}{n}, \text{ where } x_1, x_2, x_3, \dots, x_n \text{ are the } n \text{ observations.}$$

$$\Rightarrow 8 = \frac{\sum_{i=1}^{i=15} x_i}{15} \Rightarrow \sum_{i=1}^{i=15} x_i = 15 \times 8 = 120$$

Now one score in the population changed from  $x=20$  to  $x=5$

$$\text{Then } \left( \text{new } \sum_{i=1}^{i=15} x_i \right) = \left( \text{old } \sum_{i=1}^{i=15} x_i \right) - 20 + 5 = 120 - 20 + 5 = 105$$

$$\text{Hence new Mean} = \left( \text{new } \sum_{i=1}^{i=15} x_i \right) / 15 = 105 / 15 = 7.$$

**Answer:** new mean is 7.