Answer on question #46853 – Math – Statistics and Probability

Question:

The mean height of a class of 28 students is 162 cm. A new student of height 149 cm joins the class. What is the mean height of the class now?

Solution:

Denote x_n the height of the n-th student. Then the mean height of the class at the beginning was

$$\frac{1}{28}\sum_{n=1}^{28} x_n = 162.$$

Then $\sum_{n=1}^{28} x_n = 162 * 28 = 4536$.

After the new student joins the class, the mean height will be

$$\frac{1}{29}\left(\sum_{n=1}^{29} x_n\right) = \frac{1}{29}\left(\sum_{n=1}^{28} x_n + x_{29}\right) = \frac{1}{29}(4536 + 149) = \frac{4685}{29} = 161\frac{16}{29}.$$

Answer: $161\frac{16}{29}$.