A.1-1.

Find a simple formula for $\sum_{k=1}^{n} (2\,k-1)$.

Answer.

According to the linearity property of summation,

$$\begin{aligned}\sum_{k=1}^{n} (2\,k-1) &= 2\sum_{k=1}^{n} k - \sum_{k=1}^{n} 1 \\ &= 2\,\frac{n\,(n+1)}{2} - n \\ &= n^2\end{aligned}$$

Therefore, $\sum_{k=1}^{n} (2\,k-1) = n^2$.

Email address: informlarry@gmail.com