Summation Example 30182

Evaluate $\sum_{k=4}^{34} (2k-12)$

Solution:

$$= n\left(\frac{F+L}{2}\right)$$

$F = 2\times4-12 = 8-12 = -4$

$L = 2\times34-12 = 68-12 = 56$

$n = (34-4)+1 = 30+1 = 31$

$$\therefore = 31\left(\frac{-4+56}{2}\right) = 31\left(\frac{52}{2}\right)$$

$$= 31\times26 = 806$$

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