

$$(18) \sum_{i=-4}^{85+4} (120-3i) = \sum_{i=0}^{89} (120-3(i-4)) = \sum_{i=0}^{89} (132-3i) =$$

$$= \text{using } \sum_{i=0}^{n-1} (c+di) = nc + d \frac{n(n-1)}{2} = 90 \cdot 132 - 3 \frac{90 \cdot 89}{2} =$$

$\begin{matrix} \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ 132 & -3 & i & 132 & -3 \end{matrix}$

$$= 11880 - \frac{12015}{2} = -135$$

$$\sum_{i=-4}^{85} (120-3i) = -135$$

or

$$\sum_{i=-4}^{85} (120-3i) = \frac{120-3 \cdot (-4) + 120-3 \cdot (85)}{2} (85+4+1) =$$

$$= \frac{240+12-255}{2} \cdot (90) = \frac{-3}{2} \cdot 90 = -135$$