Sigma Notation

Q1

Show that $\sum_{r=1}^{16}(3+5r+2^r)=131\,798$

Q2

Show that

$$\sum_{n=2}^{\infty} \left(\frac{3}{4}\right)^n \cos(180n)^\circ = \frac{9}{28}$$

Q3

$$\sum_{r=1}^{45} (90 - 2r)$$

$$\sum_{r=1}^{20} (3r + 1)$$

Q4

Given that $\sum_{r=1}^{n} (4r-6) = 720$, find the value of n.

Q5

$$\sum_{r=1}^{10} (10 \times 2^r)$$

$$\sum_{r=1}^{8} (0.8)^r$$