(1) $S_{50} = 4 + (49) \cdot 3 = 151$

(2) $\sum_{k=-3}^{4} (2k+5) = 48$

(3) $\sum_{i=0}^{99} \left(-\frac{2}{3}\right)^i$

$$a\left(\frac{1-(r)^n}{1-r}\right) = \frac{1-(-2/3)^{99}}{1-(-2/3)} = \frac{1-(-2/3)^{99}}{5/3}$$

$$\frac{3}{5} - \frac{3(-2/3)^{99}}{5} = \boxed{0.6}$$

(4)

(A) $\boxed{2, 7, 97, 14817}$

(B) $1, 5, 19, 65, 211$

$U_3 = 5(5) - 6(1) = 19$

$U_4 = 5(19) - 6(5) = 65$

$U_5 = 5(65) - 6(19) = 211$

$2^{n+1} + 3$

(5) $a_1 = a \qquad a_n = r a_{n-1} \quad \text{for } n > 1$

(6) $\sum_{x=1}^{n} \left(\frac{1}{2x-1}\right)$