a) $a = 6.0 \times 10^6, d = 8 \times 10^6$ (1)

thus $a_n = 8 \times 10^6 n - 2 \times 10^6$ (1)

b) $S_{10} = \frac{10}{2}[2 \times 6.0 \times 10^6 + (10 - 1) \times 8 \times 10^6]$ (1)

$S_{10} = 4.2 \times 10^8$ (1)

c) $S_k = \frac{k}{2}(8 \times 10^6 k + 4 \times 10^6)$ (1)

$S_k = 4 \times 10^6 k^2 + 2 \times 10^6 k$ (1)

$4k^2 + 2k < 2450$ (1)

$2k^2 + k - 1225 < 0$ (1)

$(2k - 49)(k + 25) < 0$, as needed   (1)