4. 4

1、

1). $2ns + 0.1ns = 2.1 ns$

2). $S = \dfrac{T_{cycleold}}{T_{cycle new}} \cdot \dfrac{CPI_{old}}{CPI_{now}} = \dfrac{7ns}{2.1ns} \cdot \lim\limits_{N \to \infty} \dfrac{N}{N+4} = 3.33$

3). $T_{cycle new}$ 越来越接近于 $0.1ns$

$\Rightarrow S_{\infty} = \dfrac{7ns}{0.1ns} = 70$