

第七周

$$1. \text{ (1) } T_{c'} = 2ns + 0.1ns = 2.1ns$$

$$\Rightarrow S = \frac{T_{c'}}{T_c} \cdot CPI$$

当 N 足够大 $CPI = 1$

$$S = \frac{T_{c'}}{T_c} = 0.3$$

$$3) T_c'' = \frac{7ns}{K} + 0.1ns = (\frac{7}{K} + 0.1)ns$$

$$S = \frac{T_{c''}}{T_c} \times \frac{N+K-1}{N}$$
$$= \frac{(N+69) + K + \frac{70(N-1)}{K}}{70N}$$

$$\gg \frac{N+69 + 2\sqrt{70(N-1)}}{70N}$$

$$= \frac{1}{70} \quad (\text{当 } N \text{ 足够大})$$