3) 加速比 $= \frac{T_{cycle} \times CPI_{cycle}}{T_{pipe} \times CPI_{pipe}} = \frac{7 \times k}{2.1 \times (k+4)}$

$\therefore \lim_{k \to \infty} \frac{7 \times k}{2.1 \times (k+4)} = \frac{7}{2.1} = 3.33$

1) $T_{pipe} = 2ns + 0.1ns = 2.1ns$

2) $\frac{1}{S} = \frac{T_{cycle} \times N_{cycle}}{T_{pipe} \times N_{pipe}} = \frac{7 \times N}{2.1 \times (N+k-1)} = \frac{7}{2.1} = 3.33 \quad (N \gg k-1)$

3) $\frac{1}{S} = \frac{T_{cycle}}{T_{pipe}} \times \frac{N_{cycle}}{N_{pipe}} \approx k \times \frac{N}{N+k-1} \approx N \quad (k \to \infty)$