

① 1) 5 级流水化后的处理器时钟周期为 $T_{\text{pipe}} = 2.1 \text{ ns}$

2) 单周期处理器加速比: $S_{\text{enhanced}} = \frac{T_{\text{cycle}}}{T_{\text{pipe}}} = \frac{7 \text{ ns}}{2.1 \text{ ns}} \approx 3.33$

3) 流水化的机器拥有 n 个流水级, 则:

$$\lim_{n \rightarrow \infty} S_{\text{enhanced}} = \frac{7 \text{ ns}}{0.1 \text{ ns}} = 70$$