1. 1) $T_{pipe} = T_{MEM} + 0.1\,ns = 2.1\,ns$

2) $T_{cycle} = T_{IF} + T_{ID} + T_{EX} + T_{MEE} + T_{WB} = (1 + 1.5 + 1 + 2 + 1.5)\,ns = 7\,ns$

$$S = \frac{T_{pipe}}{T_{cycle}} \times \frac{CPI_{pipe}}{CPI_{cycle}} \approx \frac{T_{pipe}}{T_{cycle}} = \frac{2.1\,ns}{7\,ns} = 0.3$$

∴ 加速比为 $\frac{1}{S} \approx 3.33$

3) $T_{pipe} \to 0.1\,ns$

$$S \approx \frac{T_{pipe}}{T_{cycle}} \approx \frac{0.1\,ns}{7\,ns} = \frac{1}{70}$$

∴ 加速比为 $\frac{1}{S} = 70$