

3.1 (1)  $T_{\text{pipe}} = 2.1 \text{ ns}$

(2)  $S \approx \frac{T_{\text{cycle}}}{T_{\text{pipe}}} = \frac{7}{2.1} = 3.33$

(3)  $T_{\text{pipe}} > T_{\text{register}} = 0.1 \text{ ns}$ , (11)  $S_{\text{max}} = \frac{T_{\text{cycle}}}{T_{\text{register}}} = \frac{7}{0.1} = 70$