

$$2.3 \quad \text{a) } P_{tot} = N \cdot f \cdot P_{gate} \Rightarrow N = \frac{P_{tot}}{P_{gate} \cdot f} = N = \frac{2}{6.5 \cdot 10^{-6} \cdot 80} = 3.8462 \cdot 10^3$$

$$\text{b) } \frac{P_1}{P_2} = \frac{f_1 c_1 V_{DD1}^2}{f_1 c_1 V_{DD2}^2} = \frac{V_{DD1}^2}{V_{DD2}^2}$$

$$N = \frac{P_{tot} \cdot \frac{V_{DD1}^2}{V_{DD2}^2}}{\frac{V_{DD1}^2}{V_{DD2}^2} P_{gate} \cdot f} = \frac{2 \cdot \frac{5^2}{3.3^2}}{6.5 \cdot 10^{-6} \cdot 80} = 8.8296 \cdot 10^3$$