Template for LaTeXproof

Write f(n) as a recurrence that the following statement is true for all positive integers.

$$f(n) = x^{n/2} * x^{(n+1)/2} = x^n \tag{1}$$

$$T(x) = \begin{cases} aT(n/b) + n^c & \text{om } n > 4 \\ d, & \text{om } n \leq 4. \end{cases}$$

the constant a will be 2, because we have two recursive branches. the constant b is 2 and c is equal to 0. The recurrence formula is:

$$T(x) = \begin{cases} 2T(n/2) + n^0 & \text{om } n > 4 \\ d, & \text{om } n \leq 4. \end{cases}$$

$$\mathbf{a} = 2, b = 2, c = 0, a > b^c, T(n) = O(n^{log_b a}) \tag{2}$$