2. $f(n) = \left(\frac{4}{9}\right)^0 + \left(\frac{4}{9}\right)^1 + \left(\frac{4}{9}\right)^2 + \ldots + \left(\frac{4}{9}\right)^n$

We have $\sum_{i=0}^{n} \left(\frac{4}{9}\right)^i = \frac{1}{1-\frac{4}{9}} = \frac{9}{5}$

→ $\frac{9}{5}$ is a constant.

→ $\sum_{i=0}^{n} f(n)$ does not depend on n

→ $\boxed{\theta(1)}$