$$t(n) = \begin{cases} T(1) = P \\ T(n) = 8T\left(\frac{n}{2}\right) + qn \end{cases}$$

$$T(n) = 8T\left(\frac{n}{2}\right) + qn$$

$$= 8\left(8T\left(\frac{n}{4}\right) + \frac{qn}{2}\right) + qn = 8\left(8\left(8T\left(\frac{n}{8}\right) + \frac{qn}{4}\right) + \frac{qn}{2}\right) + qn$$

$$= 8^i T\left(\frac{n}{2^i}\right) + qn\left(\frac{8^2}{4} + \frac{8^1}{2} + \frac{8^0}{1}\right)$$

$$= 8^i T\left(\frac{n}{2^i}\right) + qn\underbrace{\left(4^2 + 4^1 + 4^0\right)}_{\text{SOMA DE P.G. FINITA}}$$

$$= 8^i T\left(\frac{n}{2^i}\right) + qn\left(1\left(\frac{4^i - 1}{4-1}\right)\right) = 8^i T\left(\frac{n}{2^i}\right) + qn\left(\frac{4^i - 1}{3}\right)$$

$$\Rightarrow T(1) = P \qquad \Rightarrow 8^{\log_2^n} . \cancel{T(1)}^{P} + qn\left(\frac{4^{\log_2^n} - 1}{3}\right)$$

$$\frac{n}{2^i} = 1 \Rightarrow \boxed{\log_2^n = i}$$

$$= 2^{\log_2^n} . 2^{\log_2^n} . 2^{\log_2^n} . P + qn\left(\frac{\left(2 . 2^{\log_2^n \log_2^n}\right) - 1}{3}\right) =$$

$$= n . n . n . P + qn\left(\frac{n^2 - 1}{3}\right) = P . n^3 + \frac{qn^3 - qn}{3}$$

$$= Pn^3 + \frac{qn^3}{3} - \frac{qn}{3} \Rightarrow \boxed{\Theta(n^3)}$$