I browse [1] and it gives me this relation:

$$M = v \sum_{k=1}^{n} (1+I)^k = v \frac{1+I}{I}[(1+I)^n - 1].$$

The bisection method is proposed to solve it.

[1] Alfio Quarteroni, Introduzione al Calcolo Scientifico, Esercizi e problemi risolti con MATLAB, Springer, 2006.