- Fin de période

$$A = a\,\frac{(1+i)^n - 1}{i} \qquad \text{(eq.1a)}$$

$$V_0 = A \cdot (1+i)^{-n} \qquad \text{(eq.2)}$$

(eq.1) et (eq.2)
$$V_0 = a\,\frac{1-(1+i)^{-n}}{i} \qquad \text{(eq.3a)}$$

- Début de période

$$A = a(1+i)\,\frac{(1+i)^n - 1}{i} \qquad \text{(eq.1b)}$$

$$V_0 = a(1+i)\,\frac{1-(1+i)^{-n}}{i} \qquad \text{(eq.3b)}$$

- Amortissement

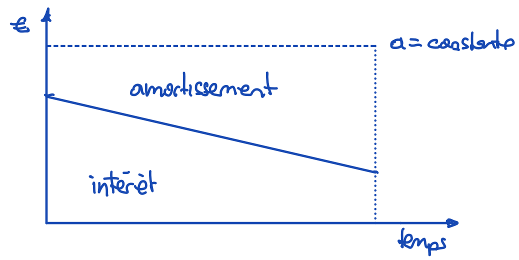
(eq.3a)
$$V_0 = a\,\frac{1-(1+i)^{-n}}{i} \quad \Big|\cdot \frac{(1+i)^n}{(1+i)^n}$$

$$= a\,\frac{(1+i)^n - 1}{i(1+i)^n}$$

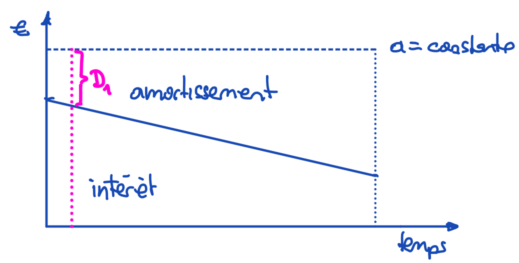
$$a = V_0\,\frac{i(1+i)^n}{(1+i)^n - 1}$$

$$a = \frac{V_0\, i(1+i)^n - V_0 i + V_0 i}{(1+i)^n - 1}$$

$$a = \underbrace{V_0\, i}_{\text{intérêt}} + \underbrace{\frac{V_0\, i}{(1+i)^n - 1}}_{\text{amortissement}} \qquad \text{(eq.4)}$$



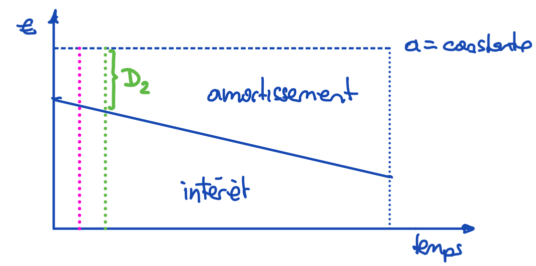
annuité = intérêt + amortissement



annuité = intérêt + amortissement

- $a = V_0 i + \underbrace{\frac{V_0 i}{(1+i)^n - 1}}_{D_1}$

$D_1 = a - V_0 i$



annuité = intérêt + amortissement

- $a_1 = V_0 i + \underbrace{\frac{V_0 i}{(1+i)^n - 1}}_{D_1}$

$D_1 = a - V_0 i$

- $a_2 = (V_0 - D_1)\, i + D_2$

∘ $a_1 = a_2$

$$V_0 i + \underbrace{\frac{V_0 i}{(1+i)^n - 1}}_{D_1} = (V_0 - D_1)\, i + D_2$$

$$\vdots$$

$$D_2 = D_1 (1+i)$$

∘ $D_q = D_1 (1+i)^{q-1}$