

## Zins- und Tilgungsplan eines Ratenkredits

$n := 20$  Laufzeit in Jahren  
 $z := 12$  Anzahl der Zahlungen pro Jahr  
 $t := 0, \frac{1}{z} .. n$  Zeitpunkte der Zahlungen  
 $K_0 := 300000$  Kreditsumme  
 $r := 0.012$  Effektiver Jahreszins  
 $R := 1250$  Rate

$$S(t) := K_0 \cdot (1+r)^t - R \cdot \frac{1 - (1+r)^t}{1 - (1+r)^{\frac{1}{z}}} \quad \text{Restschuld [für } r \neq 0]$$

$$T(t) := \text{wenn} \left( t = 0, 0, S \left( t - \frac{1}{z} \right) - S(t) \right) \quad \text{Tilgung}$$

$$Z(t) := \text{wenn}(t = 0, 0, R - T(t)) \quad \text{Zinsen}$$

| t =   | S(t) =    | T(t) = | Z(t) = | T(t) + Z(t) = |
|-------|-----------|--------|--------|---------------|
| 0     | 300000.00 | 0.00   | 0.00   | 0.00          |
| 0.083 | 299048.36 | 951.64 | 298.36 | 1250.00       |
| 0.167 | 298095.78 | 952.58 | 297.42 | 1250.00       |
| 0.25  | 297142.25 | 953.53 | 296.47 | 1250.00       |
| 0.333 | 296187.77 | 954.48 | 295.52 | 1250.00       |
| 0.417 | 295232.34 | 955.43 | 294.57 | 1250.00       |
| 0.5   | 294275.96 | 956.38 | 293.62 | 1250.00       |
| 0.583 | 293318.63 | 957.33 | 292.67 | 1250.00       |
| 0.667 | 292360.35 | 958.28 | 291.72 | 1250.00       |
| 0.75  | 291401.11 | 959.24 | 290.76 | 1250.00       |
| 0.833 | 290440.92 | 960.19 | 289.81 | 1250.00       |
| 0.917 | 289479.78 | 961.14 | 288.86 | 1250.00       |
| 1     | 288517.68 | 962.10 | 287.90 | 1250.00       |
| 1.083 | 287554.62 | 963.06 | 286.94 | 1250.00       |
| 1.167 | 286590.61 | 964.01 | 285.99 | 1250.00       |
| ...   | ...       | ...    | ...    | ...           |