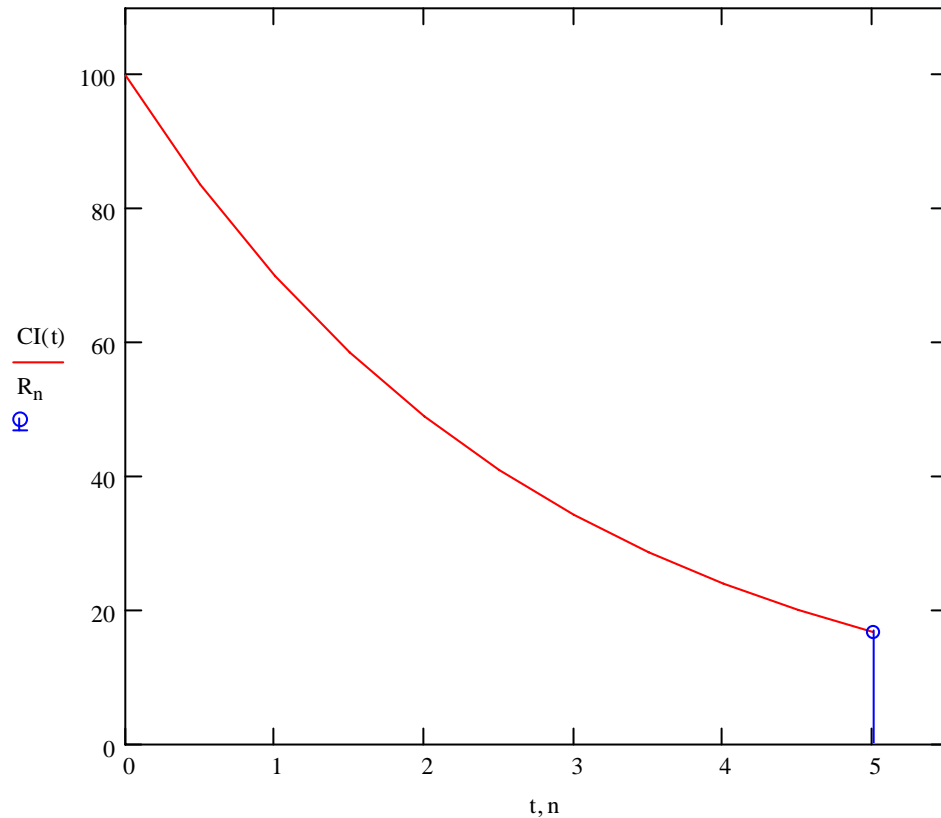


Capital Invested with Declining Balance Depreciation (Depreciation Rate Given)

$CI_0 := 100$ Initial investment
 $n := 5$ Useful life
 $p := 0.3$ Declining balance rate
 $t := 0, 0.5 \dots n$ Time
 $CI(t) := CI_0 \cdot (1 - p)^t$ Capital invested
 $R_n := CI(n)$ Residual value
 $R_n = 16.807$

CI(t) =

100
83.666
70
58.566
49
40.996
34.3
28.697
24.01
20.088
16.807



$$CI_a := \frac{\int_0^n CI(t) dt}{n} \quad \text{Average capital invested}$$

$$CI_a := \frac{CI_0}{n} \cdot \frac{(1 - p)^n - 1}{\ln(1 - p)}$$

$$CI_a = 46.649$$