Capital Invested with Straight-Line Depreciation (With a Residual Value)

$CI_0 := 100$ Initial investment

$R_n := 10$ Residual value

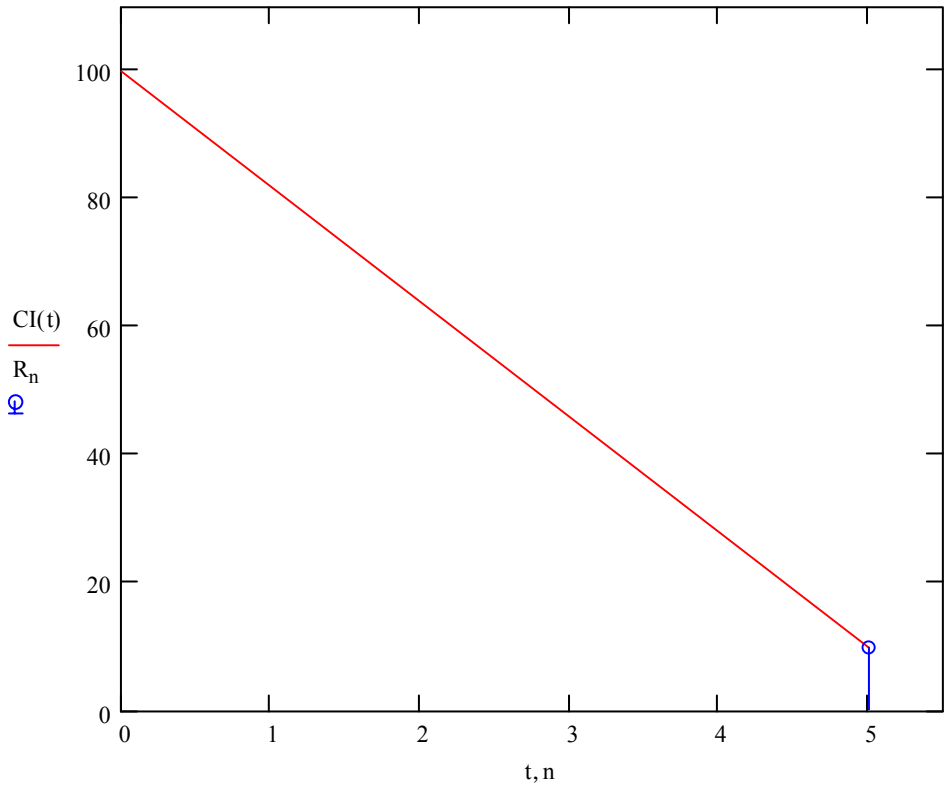
$n := 5$ Useful life

$t := 0 .. n$ Time

$CI(t) := CI_0 - \frac{CI_0 - R_n}{n} \cdot t$ Capital invested

$CI(t) =$

100
82
64
46
28
10



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

$CI_a := \frac{CI_0 + R_n}{2}$

$CI_a = 55$