

Exercise 4. (1)

> $i := .05$ $i := 0.05$ (2)

> $del := \ln(1 + i)$ $del := 0.04879016417$ (3)

> $d := \frac{i}{1 + i}$ $d := 0.04761904762$ (4)

> $w := 100$ $w := 100$ (5)

> $x := 30$ $x := 30$ (6)

> $t := 20$ $t := 20$ (7)

I USE "oA" to mean "A bar"

> $oA13020 := \frac{(1 - \exp(-del \cdot t))}{del \cdot (w - x)}$ $oA13020 := 0.1824461747$ (8)

> $A13020 := \frac{del}{i} \cdot oA13020$ $A13020 := 0.1780315763$ (9)

> $l := x \rightarrow 100 - x$ $l := x \rightarrow 100 - x$ (10)

> $E20E30 := \frac{l(50)}{l(30)} \cdot (1 + i)^{-20}$ $E20E30 := 0.2692067735$ (11)

> $A3020 := A13020 + E20E30$ $A3020 := 0.4472383498$ (12)

> $add3020 := \frac{(1 - A3020)}{d}$ $add3020 := 11.60799465$ (13)

> $oA30 := \frac{(1 - \exp(-del \cdot (w - x)))}{del \cdot (w - x)}$ $oA30 := 0.2831758786$ (14)

> $A30 := \frac{del}{i} \cdot oA30$ $A30 := 0.2763239522$ (15)

> $add30 := \frac{(1 - A30)}{d}$ $add30 := 15.19719700$ (16)

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