HW 1

Evan Dragich

25 January 2022

1.5

a

$$\begin{aligned} A(4) &= 1000 \times (1 - 0.06 \times 4) \\ &= 1000 \times (1.24) \\ &= \$1240 \end{aligned}$$

b

$$\begin{aligned} A(4) &= 1000 \times (1 - 0.06 \times 4) \\ &= 1000 \times (0.76) \\ &= \$760 \end{aligned}$$

c

$$\begin{aligned} A(4) &= 1000 \times (1 + 0.06)^4 \\ &= 1000 \times (1.262) \\ &= \$1262 \end{aligned}$$

d

$$\begin{aligned} r^{(4)} &= 0.06i(t) & &= 1 + \frac{r^{(m)}}{m}^{m} - 1 \\ &= 1 + \frac{0.06}{4}^{4} - 1 \\ &= 1 + 0.015^4 - 1 \\ &= 0.0614A(4) & &= 1000 \times (1 + 0.0614)^4 \\ &= 1000 \times (1.269) \\ &= \$1269 \end{aligned}$$

e

$$\begin{aligned} d^{(12)} &= 0.06i(t) & &= 1 - \frac{d^{(m)}}{m}^{-m} - 1 \\ &= 1 - \frac{0.06}{12}^{-12} - 1 \\ &= 1 - 0.005^{-12} - 1 \\ &= 0.0620A(4) & &= 1000 \times (1 + 0.0620)^4 \\ &= 1000 \times (1.272) \\ &= \$1272 \end{aligned}$$

f

$$\begin{aligned} A(4) &= 1000 \times e^{\delta t} \\ &= 1000 \times e^{0.06 \times 4} \\ &= 1000 \times e^{0.24} \\ &= 1000 \times (1.271) \\ &= \$1271 \end{aligned}$$