Answer on Question #78828 – Math – Financial Math

Question

If the present value of an ordinary, 6-year annuity is $6,200 and interest rates are 7.5

percent, what's the present value of the same annuity due?

Solution

$$n = 6$$

$$r = 7.5\% = 0.075$$

$$PV_{Ordinary\ Annuity} = \$6,200$$

Based on the given information, we can find the present value of the annuity due. We

know that

$$PV_{Ordinary\ Annuity} = C \cdot \frac{(1 - (1 + r)^{-n})}{r}.$$

The present value of the annuity due is

$$PV_{Annuity\ Due} = C \cdot \frac{(1 - (1 + r)^{-n})}{r} \cdot (1 + r).$$

In this case, we have

$$PV_{Annuity\ Due} = PV_{Ordinary\ Annuity} \cdot (1 + r) =$$

$$= \$6,200 \cdot (1 + 0.075) = \$6,665.$$

Thus, the present value of the same annuity due is $6,665.

Answer: the present value of the same annuity due is $6,665.