

2.8 Compound Interest Formulas

Future value: A

Initial deposit: C

Annual rate of interest: r

Number of years invested: t

Number of times compounded per year: n

153. General Compound Interest Formula

$$A = C \left(1 + \frac{r}{n} \right)^{nt}$$

154. Simplified Compound Interest Formula

If interest is compounded once per year, then the previous formula simplifies to:

$$A = C(1 + r)^t .$$

155. Continuous Compound Interest

If interest is compounded continually ($n \rightarrow \infty$), then

$$A = Ce^{rt} .$$