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 ($n \to \infty$), then

$A = Ce^{rt}$.