

## 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

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

