

Example 23.

Calculate the compound interest for a \$1000 investment under the following conditions:

Interest rate: 5%

Investment Period: 10 years

Compounding: Daily

Solution.

Use the Compound Interest Formula and assign values to the variables. P is the principal, r is the interest rate, n is the number of compounding periods, and t is the investment period.

$$P = \$1000$$

$$r = 0.05$$

$$n = 365.25$$

$$t = 10$$

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

$$\begin{aligned} A &= 1000 \cdot \left(1 + \frac{0.05}{365.25}\right)^{365.25 \cdot 10} \\ &= 1648.65 \end{aligned}$$