3. $100 invested at 4% compounded quarterly after a period of 2 years

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

\[ A = 100 \left(1 + \frac{0.04}{4}\right)^{(4)(2)} \]

\[ A = 108.29 \]

7. $600 invested at 5% compounded daily after a period of 3 years

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

\[ A = 600 \left(1 + \frac{0.05}{365}\right)^{(365)(3)} \]

\[ A = 697.09 \]

12. $100 invested at 12% compounded continuously after a period of \(3\frac{3}{4}\) years

\[ A = Pe^{rt} \]

\[ A = 100e^{(0.12)(3.75)} \]

\[ A = 156.83 \]

13. Find the principal needed now to get $100 after 2 years at 6% compounded monthly.

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

\[ 100 = P \left(1 + \frac{0.06}{12}\right)^{(12)(2)} \]

\[ P = \frac{100}{\left(1 + \frac{0.06}{12}\right)^{(12)(2)}} \]

\[ P = 88.72 \]

17. Find the principal needed now to get $600 after 2 years at 4% compounded quarterly.

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

\[ 600 = P \left(1 + \frac{0.04}{4}\right)^{(4)(2)} \]

\[ P = \frac{600}{\left(1 + \frac{0.04}{4}\right)^{(4)(2)}} \]

\[ P = 554.09 \]
20. Find the principal needed now to get $800 after \(2\frac{1}{2}\) years at 8% compounded continuously.

\[
A = Pe^{rt} \\
800 = Pe^{(0.08)(2.5)} \\
P = \frac{800}{e^{(0.08)(2.5)}} \\
P = 854.98
\]

27. Find the effective rate of interest for 5% compounded quarterly.

\[
 r_{\text{eff}} = \frac{A - P}{P} \\
r_{\text{eff}} = \left(1 + \frac{r}{n}\right)^{nt} - 1 \\
r_{\text{eff}} = \left(1 + \frac{0.05}{4}\right)^{(4)(1)} - 1 \\
r_{\text{eff}} = 5.09\%
\]

33. What rate of interest compounded annually is required to triple an investment in 5 years?

\[
A = P \left(1 + \frac{r}{n}\right)^{nt} \\
3P = P \left(1 + \frac{r}{1}\right)^{(1)(5)} \\
3 = (1 + r)^5 \\
3^{\frac{1}{5}} = 1 + r \\
r = 3^{\frac{1}{5}} - 1 \\
r = 24.57\%
\]