

Problem 8, Section 5.3

Find the present value of \$40000 due in four years at (a) 7% compounded monthly and (b) 9% compounded daily.

We use the formula $P = A(1 + \frac{r}{n})^{-nt}$ and get (a) $P = 40000(1 + \frac{0.07}{12})^{-12(4)} = 30255.95$ and (b) $P = 40000(1 + \frac{0.09}{365})^{-365(4)} = 27908.29$.

Problem 38, Section 5.3

Zoe purchased a house in 2002 for \$160000. In 2008, she sold it and made a \$52000 profit. Find the effective annual rate of return on her investment over the 6-year period.

We solve the following equation for r : $216000 = 160000(1 + r)^6$.

$$216000 = 160000(1 + r)^6 \implies 1.35 = (1 + r)^6 \implies 1.0513 \approx 1 + r \implies r \approx 0.0513.$$