4.10  \( \lambda_{yr} = \left(1 + \frac{0.16}{4}\right)^4 - 1 = 16.9859\% \)
    OR 16.99\%

4.16  a)  \( \lambda_{wk} = \left(1 + \frac{0.063/26}{1}\right)^1 - 1 = 0.2615\% \)
    OR 0.262\%
    b)  Effective

4.21  \[ F = 85M \]

\[ \lambda_{yr} = \left(1 + \frac{0.08}{4}\right)^4 - 1 = 8.243\% \]

\[ P = 85m\left(P/F, 0.08243, 3\right) = 85m\left(1.08243\right)^{-3} \]
\[ = 67,022,321 \]

OR
\[ \lambda_{q} = \left(1 + \frac{0.08/4}{1}\right)^1 - 1 = 2\% \]
\[ P = 85m\left(P/F, 0.082, 12\right) = 67,022,500 \]
16\% per year, compounded quarterly
assume the 16\% is a nominal annual rate
PP = Quarters, CP = Quarters, PP = CP
Section 4.5
1) n = 4(1) = 4 quarters
2) \( A_Q = \left(1 + \frac{16/4}{1}\right)^4 - 1 = 4\% \)

3) \[ F = 10k(F/P, 0.04, 4) + 25k(F/P, 0.04, 2) + 30k(F/P, 0.04, 1) \]
\[ = 10k(1.04)^4 + 25k(1.04)^2 + 30k(1.04) \]
\[ = $69,939 \]

6\% per year, compounded semi-annually
assume 6\% per year is nominal
PP = Mon, CP = Semi-A
move deposits to end of period

\[ A_{SA} = \left(1 + \frac{0.06/2}{1}\right)^1 - 1 = 3\% \]
\[ F = 300(6)(F/A, 0.03, 30) = 6(300)(47.5754) \]
\[ = $85,636 \]
\[ F = \frac{1.012578^{24}}{0.012578} - 1 = 1.2578\% \]

\[ F = 100k \left( F/A, .012578, 24 \right) \]

\[ F = \frac{100k \cdot 1.012578^{24} - 1}{0.012578} = \$2,781,399 \]