3.3 a. quarter b. semi-annual c. month d. week e. n = infinite

3.6 $i = \left(1 + \frac{r}{m}\right)^m - 1$

a. m = 1; r/m = r = 4%

b. m = 2; r/m = r/2; r = 8%

c. m = 4; r/m = r/4; r = 16%

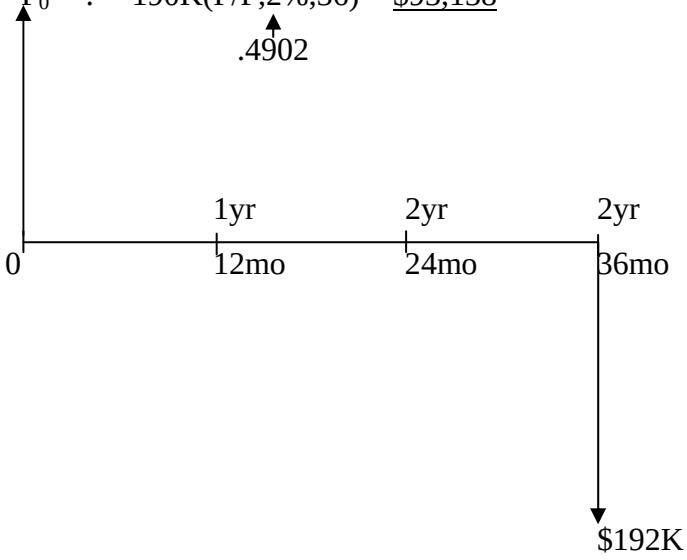
3.8 $i = \left(1 + \frac{r}{m}\right)^m - 1$; r = .12 m = 4; $i = \left(1 + \frac{.12}{4}\right)^4 - 1$ = .1255 or <u>12.55%</u>

3.10 $i = \left(1 + \frac{r}{m}\right)^m - 1$; i = .12; m = 4; r = ?

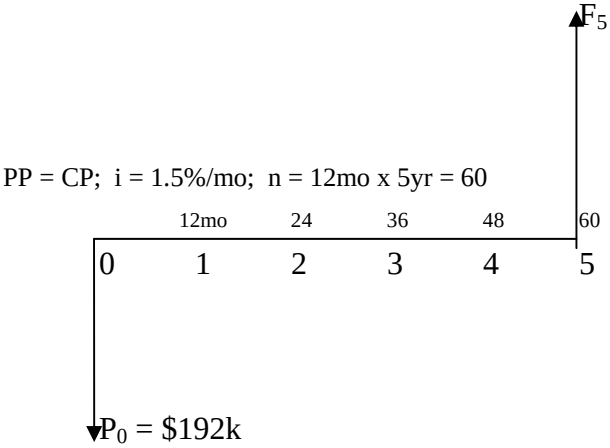
$.12 = \left(1 + \frac{r}{4}\right)^4 - 1$; $(1 + \frac{r}{4})^4 = \sqrt[4]{1.12}$ = 1.0287; r = (1.0287 – 1)4 = .11495 or <u>11.495%</u>

3.17 PP = CP; PP = month; CP = month; i = r = 2%/mo; n = 3yrs x 12mo = 36

P_0 = ? = 190K(P/F,2%,36) = <u>$93,138</u>



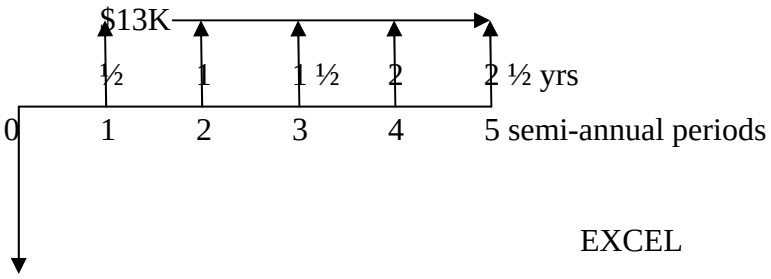
3.20 F_5 = ? = \$192K(F/P,1.5%,60) = <u>\$469,094</u>



3.27 PP > CP PP = 5; CP = 12; m = 6

Semi-annual > month i = 1%/mo or 6%/semi-annual

$$i_{eff} = (1+.\frac{06}{6})^6 - 1 = .06152 \; or \; 6.152\%$$



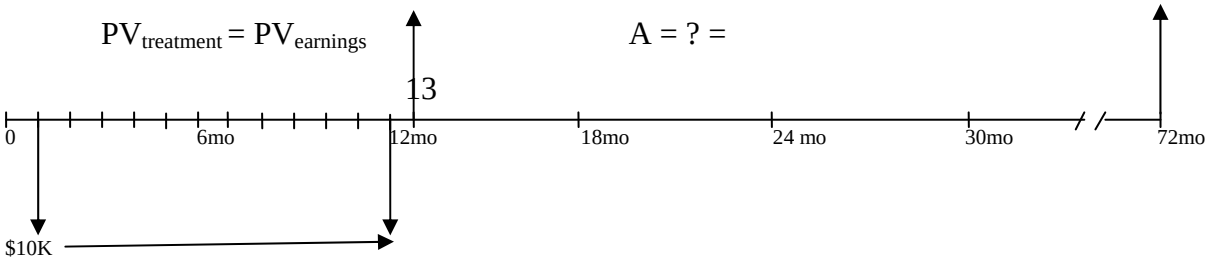
EXCEL

P_0 = ? = \$13K(P/A,6.152,5) = <u>\$54,535</u> ← PV(.06152,5,13000)

or = $13K[((1+.06152)^6 - 1)/.06152(1+.06152)^6]$ = <u>\$54,535</u>

3.30 PP = month CP = month; PP = CP; i = 12%/yr or 1%/mo

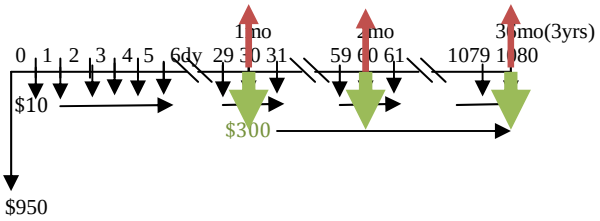
$PV_{treatment} = PV_{earnings}$ A = ? =



\$10K(P/A,1%,12) = A(P/A,1%,60)(P/F,1%,12); A = <u>\$2,821</u>

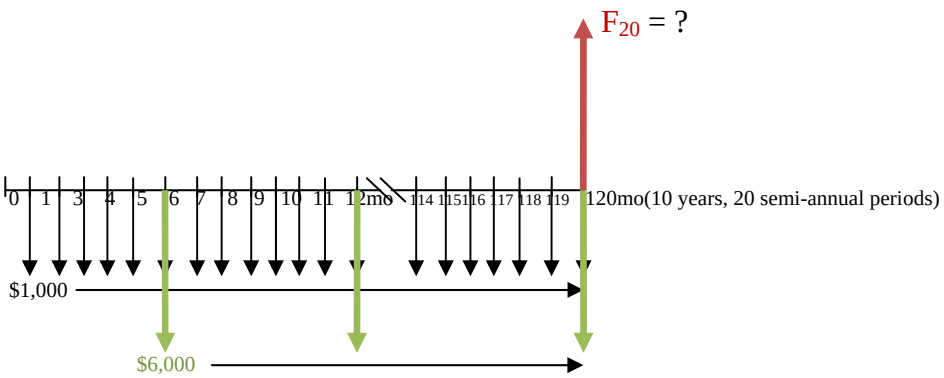
11.2551 44.9550 .8874

3.50 PP = daily or 360/yr CP = monthly; PP < CP; since cash flows are negative move all daily pmts to end of month (becomes -$300/mo). Common practice is to assume 30 days/month and 360 days/year. i = 1% (12% CP monthly); n = 36 months.



A = P(A/P,1%,36) = [$950 + 300(P/A,1%,36)](A/P,1%,36) = $332/mo
(30.1075, .03321)

3.52 PP = month CP = semi-annual; PP < CP Since cash flows are negative move all monthly pmts to end of semi-annual period (becomes -$6000/6 mos). i = 5%(10% CP semi-annualy); n = 20 semi-annual periods



F_{20} = $6,000(F/A,5,20) = $198,396