

Week 14

1.

Year	Beginning balance	Withdrawal	Interest	Ending balance
1	\$37,171.30	\$10,000.00	\$1,115.14	\$28,286.44
2	\$28,286.44	\$10,000.00	\$848.59	\$19,135.03
3	\$19,135.03	\$10,000.00	\$574.05	\$9,709.08
4	\$9,709.08	\$10,000.00	\$291.27	\$0.35

Since there is only \$.35 in the account, we should withdraw \$10,000.35

2. $A = \$25,000$

$$i = .15/12 = .0125$$

$$n = 7 \times 12 = 84$$

$$25,000 = R \frac{(1.0125)^{84} - 1}{(.0125)(1.0125)^{84}}$$

$$25,000 = R \frac{1.83911}{(0.125)(2.83911)}$$

$$25,000 = R(51.822156)$$

$$\frac{25000}{51.822156} = R$$

$$\$482.42 = R$$

3. $R = 2,500$

$$i = .08/1 = .08$$

$$n = 10$$

$$A = 2500 \frac{(1.08)^{10} - 1}{.08(1.08)^{10}}$$

$$A = 2500 \frac{1.15892}{.08(2.15892)}$$

$$A = 2500(6.710068)$$

$$A = \$16,775.17$$

4. $A = 10,000$

$$i = .12/4 = .03$$

$$n = 2 \times 4 = 8$$

$$10000 = R \frac{(1.03)^8 - 1}{.03(1.03)^8}$$

$$10000 = R \frac{.26677}{(.03)(1.26677)}$$

$$10000 = R(7.0196905)$$

$$\frac{10000}{7.0196905} = R$$

$$\$1,424.56 = R$$

$$\text{Total payments} = 8 \times 1424.56 = 11,396.48$$

$$\text{Interest} = 11,396.48 - 10,000 = \$1,396.48$$

5.

$$R = 523.39$$

$$I = .15/12 = .0125$$

$$N = 2 \times 12 = 24$$

$$A = 523.39 \frac{(1.0125)^{24} - 1}{(.0125)(1.0125)^{24}}$$

$$A = 523.39 \frac{.34735}{(.0125)(1.34735)}$$

$$A = 523.39(20.624188)$$

$$A = \$10,794.49$$

6.

Year	Beginning Balance	Payment	Interest	Applied to Principal	Ending balance
1	\$5,000.00	\$1,273.49	\$37.50	\$1,235.99	\$3764.01
2	\$3,764.09	\$1,273.49	\$28.23	\$1,245.26	\$2,518.83
3	\$2,518.83	\$1,273.49	\$18.89	\$1,254.60	\$1,264.23
4	\$1,264.23	\$1,273.49	\$9.48	\$1,264.01	\$0.22

The final payment should be increased to \$1,273.71 so that the final balance will be zero