

## Assignment #8

HW # 8      6.4      p 471      # 6, 8, 14, 18, 24, 28, 30, 34, 40, 42

6.  $A_n = \$88,000, n = (4)(5.5) = 22,$

$$i = \frac{0.058}{4} = 0.0145$$

$$88,000 = R \left[ \frac{1 - (1 + 0.0145)^{-22}}{0.0145} \right]$$

$$= R(18.721209)$$

$$R = \frac{88,000}{18.721209} = \$4700.55$$

8. a.  $R = \$10,000, i = 0.006\%, n = 480$

$$A_n = 10,000 \cdot \frac{1 - (1 + 0.006)^{-480}}{0.006}$$

$$= 10,000(157.23) = \$1,572,300$$

b.  $R = 800,000 \left[ \frac{0.006}{1 - (1 + 0.006)^{-480}} \right]$

$$= \$5088.09$$

14. Yes. Answers will vary

18.  $R = \$15,000, n = (1)(7) = 7, i = \frac{0.073}{1} = 0.073$

$$A_{(n, \text{due})} = 15,000 \left[ \frac{1 - (1 + 0.073)^{-7}}{0.073} \right] (1 + 0.073)$$

$$= \$85,840.70$$

24.  $R = \$10,000, n = (12)(20) = 240,$

$$i = \frac{0.063}{12} = 0.00525$$

$$A_{(n, \text{due})} = 10,000 \left[ \frac{1 - (1 + 0.00525)^{-240}}{0.00525} \right] (1 + 0.00525)$$

$$= 10,000(136.983889)$$

$$= \$1,369,838.89$$

28.  $R = \$3000, i = 2\%, n = 8$

$$A_n = \$3000 \cdot a_{\overline{8}|2\%} = 3000(7.325482)$$

$$= \$21,976.45$$

$$A_n + \$8000 \text{ down} = \$29,976.45$$

Cheaper to pay cash.

30.  $A_n = \$93,000, n = 12 \cdot 12 = 144,$

$$i = \frac{0.066}{12} = 0.0055$$

$$93,000 = R \left[ \frac{1 - (1 + 0.0055)^{-144}}{0.0055} \right]$$

$$= R(99.286913)$$

$$R = \frac{93,000}{99.286913} = \$936.68$$

34.  $R = \$2000, n = (4)(5) = 20, k = (4)(3) = 12,$

$$i = \frac{0.08}{4} = 0.02$$

$$A_{(n,k)} = 2000 \left[ \frac{1 - (1 + 0.02)^{-20}}{0.02} \right] (1 + 0.02)^{-12}$$

$$= \$25,785.99$$

40.  $R = ?, i = 0.019, k = 119, n = 20$

$$10,000 = R \left[ \frac{1 - (1 + 0.019)^{-20}}{0.019} \right] (1 + 0.019)^{-119}$$

$$10,000 = R(1.7580)$$

$$R = \$5688.16$$

42.  $A_{(40,28)} = 134,000, n = 40, k = 28, i = 0.0385$

$$134,000 = R \left[ \frac{1 - (1 + 0.0385)^{-40}}{0.0385} \right] (1 + 0.0385)^{-28} = R(7.0288)$$

$$R = \frac{134,000}{7.0288} = \$19,064.49$$