

11u (8.5) p. 521 #10

① $PV = 35000$

$R = ?$

$i = \frac{0.084}{12} = 0.007$

② Sub values into PV formula and solve for "R".

a) $\frac{5 \text{ year term}}{12}$
 $n = 5 \times 12 = 60$

10 year term
 $n = 10 \times 12 = 120$

15 year term
 $n = 15 \times 12 = 180$

$$35000 = R \left[\frac{1 - (1.007)^{-60}}{0.007} \right]$$

$R = \frac{35000}{[48.85587...]}$

$R = \underline{\underline{\$716.39}}$

I = interest (\$)

b) A = total paid

$A = Rn$

$A = (60)(716.39)$

$A = \$42983.40$

$I = 42983.40$
 $- 35000$

$I = \underline{\underline{\$7983.40}}$

$R = \frac{35000}{\left[\frac{1 - (1.007)^{-120}}{0.007} \right]}$

$R = \underline{\underline{\$432.08}}$

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b) $A = 120(432.08)$

$A = 51849.60$

$I = 51849.60$
 $- 35000$

$I = \underline{\underline{\$16849.60}}$

$R = \frac{35000}{\left[\frac{1 - (1.007)^{-180}}{0.007} \right]}$

$R = \underline{\underline{\$342.61}}$

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b) $A = (342.61)(180)$

$A = 61669.80$

$I = 61669.80$
 $- 35000$

$I = \underline{\underline{\$26669.80}}$