Math 121
Quiz #2

Problem 1

A debtor is to amortize a $7000 car loan by making equal payments at the need of each month for 36 months. If the APR is 4% compounded monthly, find the amount of each payment.

Answer

$$R = \frac{A}{a_{n\urcorner r}}$$
$$R = \frac{7000}{a_{\overline{36}|.04/12}}$$

Potentially Useful Information

A - present value of the loan
r - **Periodic** interest rate
n - number of periods for which interest is accumulated
R - periodic payment

Value of periodic payment

$$R = \frac{A}{a_{n\urcorner r}}$$

Principal outstanding at k^{th} period

$$Ra_{n-k+1\urcorner r}$$

Interest in k^{th} payment

$$Rra_{n-k+1\urcorner r}$$

Principal contained in k^{th} payment

$$R(1 - ra_{n-k+1\urcorner r})$$

Total interest paid

$$nR - A$$

Problem 2

Describe in 50 words (or much less) what an annuity is.

Answer

Verbatim, from the book: An annuity is a sequence of payments made at fixed periods of time over a given interval.