Name:

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Session:

Week 5 Credit

Below shows the monthly repayment table of a personal installment loan.

Loan Amount (HKD)	Monthly flat rate	Monthly Repayment Amount - Based on every HKD10,000 loan amount (APR)				
		12 Months	24 Months	36 Months	48 Months	60 Months
HKD5,000 - HKD49,999	0.41%	HKD874.40 (9.34%)	HKD457.70 (9.57%)	HKD318.80 (9.56%)	HKD249.40 (9.49%)	HKD207.70 (9.40%)
HKD50,000 - HKD149,999	0.24%	HKD857.40 (5.40%)	HKD440.70 (5.57%)	HKD301.80 (5.60%)	HKD232.40 (5.59%)	HKD190.70 (5.56%)
HKD150,000 - HKD499,999	0.20%	HKD853.40 (4.49%)	HKD436.70 (4.64%)	HKD297.80 (4.67%)	HKD228.40 (4.66%)	HKD186.70 (4.65%)
HKD500,000 - HKD699,999	0.15%	HKD848.40 (3.36%)	HKD431.70 (3.47%)	HKD292.80 (3.50%)	HKD223.40 (3.50%)	HKD181.70 (3.50%)
HKD700,000 or above	???	HKD845.40 (2.68%)	???	HKD289.80 (2.80%)	HKD220.40 (2.81%)	HKD178.70 (2.81%)

1) Which method is used to calculate the monthly payment? Explain.

- From the table we can see that the stated annual rate is smaller than the APR.
- Example:
  - For loan amount HKD5,000 – HKD 49,999, the stated annual rate is 0.41%x12 = 4.92%
  - The APR of a 12–months instalment is 9.37%
- Since the stated annual rate < APR, it is calculated by the Add–On Method.

2) What is the monthly flat rate for a loan amount over HK$700,000?

- According to the table, the 12 months monthly payment is HK$845.4
- The annual payment is HK$845.4 x 12 = HK$10,144.8
- Total finance charges = HK$10,144.8 – HK$10,000 = HK$144.8
- Monthly flat rate = (HK$144.8/HK$10,000)/12 = 0.1207%

3) What are the 24–month repayment amount and the APR based on every HKD10,000 loan amount?

- Finance charge = HK$10,000 x 0.1207% x 12 x 2 = HK$289.68
- Total amount to be repaid = HK$10,000 + HK$289.68 = HK$10,289.68
- Monthly payment = HK$10.289.68/24 = HK$428.7

$$APR = \frac{2 \times n \times I}{P(N + 1)}$$

$$APR = \frac{2 \times 12 \times 289.68}{10000(24 + 1)}$$
$$= 2.78\%$$

4) How much will the monthly repayment be if another method is used instead?

- If the interest is calculated by Simple Interest Method, the monthly payment is

$$P = \frac{r(L)}{1-(1+r)^{-n}}$$

$$P = \frac{0.1207\%(10000)}{1-(1+0.1207\%)^{-24}}$$

$$P = 423$$