Extra repayments, frequency changes and offsets

6 questions | 18 marks

Equivalent correct methods earn the corresponding marks.

1. A monthly repayment is AUD 800. Compare the annual cash paid with AUD 400 paid every fortnight. [3 marks]

Monthly total is $12 \times 800 = 9600$.

Fortnightly total is $26 \times 400 = 10400$.

Answer: Monthly: AUD 9,600.00; fortnightly: AUD 10,400.00; extra annual outflow AUD 800.00.

2. Find the fortnightly rate equivalent to an effective annual rate of 6%. [3 marks]

There are 26 model periods per year.

$i = 1.06^{1/26} - 1$.

Answer: 0.2244%

3. A balance is AUD 20,000 with an offset of AUD 3,000. Interest is 0.4% monthly and the month-end repayment is AUD 600. Find the new loan balance. [3 marks]

Interest is $(20000 - 3000) \times 0.004 = 68$.

Loan balance is $20000 + 68 - 600 = 19468$.

The AUD 3,000 remains in the offset; it is not subtracted from the debt again.

Answer: AUD 19,468.00

4. A debt of AUD 1,500 has an offset of AUD 2,000. Under a model with no negative interest and an AUD 200 month-end repayment, find the new debt. [3 marks]

The interest base is $max(1500 - 2000, 0) = 0$.

New debt is $1500 - 200 = 1300$.

Answer: AUD 1,300.00

5. A no-interest loan of AUD 6,000 is repaid at AUD 300 monthly. How many months are saved by instead paying AUD 400 monthly? [3 marks]

At AUD 300, $6000/300 = 20$ months.

At AUD 400, $6000/400 = 15$ months.

Difference is 5 months.

Answer: 5 months

6. Explain why an offset balance of AUD 4,000 is not the same accounting entry as a permanent AUD 4,000 principal repayment. [3 marks]

Both may initially reduce the interest base by AUD 4,000.

Compare net positions and access to cash, not only the loan’s displayed balance.

Answer: The offset leaves both the loan debt and an accessible savings asset; a principal repayment reduces the debt and uses the cash.