Comparing investments

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Compare AUD 3000 for 2 years at 5% annual compound interest and 4.8% nominal compounded monthly. No fees. [2 marks]

Evaluate $3000(1.05)^2$ and $3000(1.004)^{24}$.

Answer: Annual: AUD 3,307.50; monthly: AUD 3,301.64.

2. A AUD 2500 account earns 4% simple interest for one year and charges AUD 12. Find its final amount. [2 marks]

$2500 + 100 - 12 = 2588.$

Answer: AUD 2,588.00

3. For one year, A pays 3% simple interest/no fee; B pays 4% and charges AUD 18. Find the break-even starting amount. [2 marks]

$1.03P = 1.04P - 18.$

$P = \frac{18}{0.01} = 1800.$

Answer: AUD 1,800.00

4. A model predicts A exceeds B by AUD 4 after 2 years. Explain why a possible AUD 10 closing fee matters. [2 marks]

If only A incurs the extra 10,its advantage becomes $4-10=-6$.

Answer: It can reverse the ranking.

5. One account pays a fixed 4% for 2 years; another pays 5% only for the first year. Can a 2 year final comparison be determined? [2 marks]

A first-year promotional rate does not specify both years.

Answer: No; the second-year rate or balance rule is missing.

6. Compare 10% total growth over 2 years with 12% total growth over 3 years using annualised rates. [2 marks]

Annual factors are $1.10^{\frac{1}{2}}$ and $1.12^{\frac{1}{3}}$.

The two-year option has the higher annualised rate.

Answer: Two-year option: 4.881%; three-year option: 3.850%.