Investing and borrowing - Practice test 2

Name: _____ Date: _____

10 questions | 57 marks | 70 minutes

An original mixed topic paper. Show calculations, label rates and periods, and explain conclusions using the supplied hypothetical financial rules. Round final monetary answers to cents unless a minimum deposit is requested.

A scientific calculator may be used.

1. A club fee of AUD 432 includes an 8% increase on last year. [5 marks]

(a) Find last year’s fee. [2 marks]

(b) If the new fee is discounted 5% for early payment, find the amount paid and the overall change from last year. [3 marks]

2. Compare two accounts for a AUD 2400 balance held for one year. Both use simple interest. [6 marks]

Hypothetical account rules

Account	Annual rate	Monthly fee
A	4%	AUD 0
B	5%	AUD 2.50

(a) Calculate each final balance. [3 marks]

(b) State which is higher and one condition that could change the comparison. [3 marks]

3. Using a 365-day year, AUD 9125 is invested at 4% simple interest. [6 marks]

(a) Find interest for 73 days. [3 marks]

(b) A student uses 73 as the time in the annual formula. Explain the error. [3 marks]

4. AUD 6500 earns 5.2% nominal annual interest compounded quarterly for 18 months. [5 marks]

(a) State the periodic rate and number of periods. [2 marks]

(b) Find the final balance and total interest. [3 marks]

5. A club separately needs AUD 2000 in 2 years and AUD 3000 in 4 years. Each fund is a single deposit earning 5% annually. [6 marks]

(a) Find each deposit to the nearest cent. [3 marks]

(b) Find the combined minimum deposit if each fund is rounded up separately. [3 marks]

6. An investment has an effective annual rate of 10%. [6 marks]

(a) Find an equivalent quarterly rate to 3 decimal places. [3 marks]

(b) Explain why 2.5% per quarter is not exactly equivalent. [3 marks]

7. For two years, A pays 4.5% compounded annually. B pays 6% in Year 1 and 3% in Year 2. No fees, starting balance AUD 5000. [6 marks]

(a) Find each final value. [3 marks]

(b) If B charges a AUD 15 closing fee, which finishes higher and by how much? [3 marks]

8. Purchase 150 shares at AUD 12 with AUD 20 brokerage. Receive AUD 0.40 dividend per share; selling brokerage will be AUD 20. [5 marks]

(a) Find total purchase cost and dividend. [2 marks]

(b) Find the selling price per share needed to break even, to the nearest cent. [3 marks]

9. Investment X rises 20% over 2 years. Investment Y rises 28% over 3 years, each with one starting payment and one final receipt. [6 marks]

(a) Find equivalent annual rates to 3 decimal places. [3 marks]

(b) Which has the larger annual rate, and why is the comparison not a complete investment decision? [3 marks]

10. Two hypothetical loans finance AUD 2400 for one year. Flat loan F charges 6% simple interest and a AUD 36 fee. Loan R requires 12 monthly payments of AUD 210 and no fee. [6 marks]

(a) Find the total paid and extra cost under each. [3 marks]

(b) Explain why comparing 6% with the repayment amount is meaningless. [3 marks]