Multiple-choice section – choose the correct answer

Question 1 [13.2]

The interest accrued on a loan of $6200 at 5% p.a. compounded annually over 2 years, is closest to:

A $620 B $636 C $6820 D $6836

Question 2 [13.4]

A car bought for $17 800 depreciates at a rate of 15% p.a. Assuming reducing balance depreciation, in 5 years’ time, the car will be worth:

A $17 800(0.85)5 B  C $17 800(1.15)5  D 

Question 3 [13.1]

$200 is invested for 5 years at 4.2% p.a. The amount of simple interest earned is:

A $242 B $40 C $42 D $420

Question 4 [13.4]

An amount of money invested for 3 years at 1.5% p.a. simple interest earns $13.50 in interest. The principal amount invested is:

A $300 B $330 C $3000 D $430

Question 5 [13.3]

$20 000 is invested at 8.4% p.a. compounded annually. The amount in the investment in 10 years is:

A $43 041.59 B $47 940.76 C $34 972.76 D $44 804.62

Question 6 [13.6]

Marty borrows $25 000. The interest on the loan is compounded half-yearly at 3.5% p.a. for 13 years. What total amount will he pay off at the end of the loan?

A $39 250 B $48 076 C $1 236 742 D $31 279

Question 7 [13.3]

Musashi invests $60 000 for 10 years and receives a final amount of $75 350. What is the interest rate if the loan is compounded annually?  
A 1.02% p.a. B 2.3% p.a. C 10.23% p.a. D 23.04% p.a.

Question 8 [13.4]

The value of the effective interest rate, if $5000 is invested and *I1* = $350, is:

A 5% B 0.07% C 7% D 0.05%

Question 9 [13.4]

A bank loan has an interest rate of 19% p.a. compounded daily. What is the nominal rate?

A 0.0005% B 0.05% C 0.19% D 19%

Multiple-choice results: \_\_\_ / 9

Short answer section

Question 10 10 marks

Use words from the list below to complete the following sentences.

principal appreciation straight-line depreciation depreciation

adjusted value compound interest total depreciation depreciation value

written-down value interest

(a) Simple interest depends on the principal, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ rate per annum and the time in years.

(b) The original amount of money loaned or invested is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(c) Interest that is calculated on the principal and interest from the previous time period is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(d) The value of an item after it depreciates is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(e) The amount that an item depreciates is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Depreciation accumulated over a number of years is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(f) Increase in cost or value is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and decrease in cost or value is called \_\_\_\_\_\_\_\_\_\_\_\_\_.

(g) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ applies when items lose a constant amount of value each year.

Question 11 4 marks [13.1]

What rate of simple interest is needed to earn $60 in interest on $1000 invested for 2 years?

Question 12 4 marks [13.2]

Geoff invests $2000 at 5.2% p.a. compounded annually. Calculate the total value of the investment after 5 years. State your answer to the nearest dollar.

Question 13 4 marks [13.2]

Jon borrowed $25 000 at 7.2% p.a. compounded monthly. Calculate the total value of the loan after 10 years.

Question 14 4 marks [13.6]

Kun’s restaurant had takings of $324 000 in the first year and $530 000 in the 10th year. What is the average annual percentage rate at which his business has grown?

Question 15 4 marks [13.3]

A loan has an interest rate of 25% compounded monthly. Find the effective interest rate as a percentage correct to 2 decimal places.

Question 16 4 marks [13.6]

The initial number of members at a football club was 12 276. How many members will there be left after 5 years if the number of members decreases by 7.5% per year?

Question 17 4 marks [13.3]

A car bought for $23 500 depreciates at a rate of 2.6% p.a. Find, correct to the nearest dollar, the written down value of the car, after 4 years, assuming reducing balance depreciation

Short answer total:\_\_\_\_\_\_\_/38

Extended answer section

Question 18 5 marks [13.3]

An art collector buys a rare piece of sculpture for $1000.

(a) If the rate of inflation is 4%, find the equivalent value of the sculpture after 5 years. Give your answer correct to the nearest dollar.

(b) The collector then sells the sculpture it for $1500. Find the effective profit. (The profit after the effect of inflation on the original value has been calculated).

Question 19 8 marks [13.3]

An Edwardian sofa was purchased for $1000. It was then immediately restored to its original condition at a cost of $1000.

(a) What was the full initial cost of the sofa?

Over the next 3 years the inflation rates were 1%, 2%, and 3% respectively.

(b) Calculate the value, correct to the nearest cent, of the sofa, over the 3 years after purchase, based on the inflation rates.

(c) The sofa was sold for $4000 at the end of the 3 years. Calculate the effective profit.

(d) Find the effective profit percentage, to the nearest whole percentage, based on the original initial cost found in (a).

Extended answer results: \_\_\_\_\_ /13

TOTAL test results: \_\_\_\_\_ /60