


## FINANCIAL MATHEMATICS (FM)

| Preliminary Course               | HSC Course                        |
|----------------------------------|-----------------------------------|
| FM1 – Earning and Managing Money | FM4 – Credit & Borrowing          |
| FM2 – Investing Money            | FM5 – Annuities & Loan Repayments |
| FM3 – Taxation                   |                                   |

### PRELIMINARY FINANCIAL MATHEMATICS


Money can be earned in a variety of ways.

- A **salary** is a fixed annual payment which can be usually paid in weekly, fortnightly or monthly intervals. Professionals such as accountants usually earn fixed salaries. No overtime is earned.
- A **wage** is found by multiplying the number of hours worked by the hourly rate.



1 year = 52 weeks  
1 year = 26 fortnights  
1 fortnight = 2 weeks  
**1 month  $\neq$  4 weeks!**

- **Overtime** can be earned by wage earners if they work public holidays or unusually long hours in a particular day. It is almost always paid as “time and a half” or double time.



Time-and-a-half = 1.5 x normal hourly rate  
Double time = 2 x normal hourly rate

- Wage earners may also earn certain **penalty rates** for, say, working in unusually dirty conditions or working at heights.
- **Commissions** are paid to salespeople and are a percentage of the value of goods sold. Sometimes a **retainer** (a fixed amount) is also paid to which commissions are then added.
- **Piecework** refers to the situation where a worker is paid per piece of work completed. Letter box droppers are usually paid in this way, fruit pickers, seamstresses, etc...
- A **royalty** is an amount paid to either an author or recording artist. For example, an author may earn so much per book sold or a recording artist may earn money each time their song is played on the radio or performed by others.

Employees will often have certain **deductions** made from their **gross income** each pay period.

Workers may also elect to have other items deducted such as union fees, voluntary superannuation contributions or health insurance premiums. When all deductions have been taken from their **gross pay**, a worker's **net pay** has been found.

- **Holiday loading** is an extra payment paid to employees during their holidays. It is calculated as  $17\frac{1}{2}\%$  of their weekly pay and is added to their regular pay.
- **Holiday Pay** is the total payment a person receives while they are on leave.



$$\text{Holiday pay (for } n \text{ weeks)} = 1.175 \times n \times \text{normal weekly pay}$$

- A **budget** is a plan designed to manage household income and expenditure. These are often set up in Excel spreadsheets with Income on one side from all its various sources like job and investments and Outgoings (or Expenses) on the other side such as Food, Rent and Entertainment.

For example:

| Sam's Weekly Budget |              |               |       |
|---------------------|--------------|---------------|-------|
| Income              |              | Expenses      |       |
| Pay (Work)          | \$458        | Rent          | \$190 |
| Babysitting         | \$85         | Food          | \$56  |
|                     |              | Entertainment | \$70  |
|                     |              | Phone         | \$17  |
|                     |              | General Bills | \$35  |
|                     |              | Shopping      | \$90  |
| <b>Total</b>        | <b>\$543</b> | Saving        | \$85  |

- Each household receives **household bills** for such things as gas, electricity and telephone. You may be required to read and interpret a bill statement.
- A person can choose to invest a sum of money and gain interest back based on the **simple interest** or **compound interest** scheme. Similarly, if a person borrows funds from a financial institution, interest can be accrued in the following two ways:



Loans are looked at in further detail in FM5

Regardless of the scheme you are using, you must ensure that the interest rate (r) and the term (n) is in the same units. i.e. if interest is compounding monthly, your interest rate must be in months as well.

- **Simple interest:** Where interest is calculated on the initial amount deposited or borrowed. It is calculated using the formula,

$$I = Prn$$

Where:

I is the interest earned

P is the principle (either invested or borrowed)

r is the rate of annual interest expressed as a decimal

n is the term of the investment or loan in years

- **Compound interest** is when the interest from previous years is added to the balance in an account and this interest earns interest in subsequent years. It is calculated using the formula,

$$A = P(1 + r)^n$$

Where:

A is the value of the final value of the investment

P is the initial amount invested

r is the rate of interest per period and

n is the number of compounding periods

This formula can be used to calculate the **appreciated value** of such things as stamps collections, real estate and memorabilia. It is also applicable to calculation of the effects of **inflation**.

A good way to remember what compound interest is and does, is that it is “interest on your interest!” Investors may choose to invest in **shares**. Each share is a part ownership in the company. Your money is used by the company to run its business.

Shares can then be resold on a **stock exchange**. The profits from resale go to the owners of the share, not the company. Some of the company’s profits are divided between the number of shares and distributes the profits to their owners as **dividends**. Dividends are paid once or twice a year.

Since the value of the shares will fluctuate over the course of a day, two terms you need to know are:

- The original share price is called the **face value** (or **par value**).
- The current price is called the **market value** (or **market price**).

Also,

- The **dividend** is the amount paid to investors for each share they own.

The **dividend yield** is the percentage return per share. Please note that this formula is not included on your formula sheet and it is therefore important that you become familiar with this concept. The formula is:

$$\text{Dividend yield} = \frac{\text{dividend}}{\text{market price}} \times 100\%$$

- **Stockbrokers** are the agents used for buying and selling shares. They earn a **brokerage** for their services.
- **Stamp duty** is also payable on the purchase of shares.

The topic of taxation has a lot of mathematical jargon. It is important that students know the meaning of each word, despite their similarity.

- **Gross pay** is the amount earned before any deductions have been made. All workers have **tax instalments** deducted by their employers under the PAYG scheme (Pay As You Go).
- **Total income** refers to the all the money earned by an individual from all sources including their job, income from rental properties, dividends from shares and interest from bank accounts.
- **Tax instalments** are the deductions made each pay period by employers on behalf of their employees and are sent in to the Australian Tax Office.
- **Allowable tax deductions** refer to money spent by employees which is directly related to the earning of income or donations to registered charities. These amounts are deducted before the tax payable is calculated.
- **Taxable income** = Total Income – Allowable tax deductions.
- **Tax payable** refers to the amount of tax a worker owes the government and is calculated using the taxable income and the tables provided to you in questions. When this figure is compared to the total of the **tax instalments** paid throughout the course of a year, a worker's **refund due** or **balance payable** can be found by finding the difference between tax payable and total tax instalments.

The current table used in Australia appears below.

### Tax rates

| Taxable income       | Tax on this income*                           |
|----------------------|---|
| 0 – \$18,200         | Nil   |
| \$18,201 – \$37,000  | 19c for each \$1 over \$18,200                |
| \$37,001 – \$80,000  | \$3,572 plus 32.5c for each \$1 over \$37,000 |
| \$80,001 – \$180,000 | \$17,547 plus 37c for each \$1 over \$80,000  |
| \$180,001 and over   | \$54,547 plus 45c for each \$1 over \$180,000 |

- As well as paying income tax, Australians are required to contribute to the public health system by paying a **Medicare Levy**. Except for low income earners, this is 1.5% of a worker's taxable income.

- The **Goods and Services Tax (GST)** is a 10% tax on all goods and services with the exception of certain fresh foods and essentials. Other countries have a **Value Added Tax (VAT)** which operates in the exact same way as our GST.



Make sure you identify in these types of questions whether tax has been added to the product and you need to find the cost without the tax!  
You will need to use the **unitary method** here!

### EXAMPLE 1

Anja is a seating attendant at the local cinema and is paid \$14.20 per hour. Find her pay for a week where she works 32 hours during the week, plus 5 hours on Saturday where she earns time and a half and 3 hours on Sunday where she earns double time.

#### **Solution**

### EXAMPLE 2


Sonia works as an accountant. Her gross salary is \$75,400 p.a.

Sonia is paid leave loading of  $17\frac{1}{2}\%$  of 4 weeks gross pay. How much leave loading does Sonia receive?

#### **Solution**

**EXAMPLE 3**

A real estate agent charges the following scale of commission for properties sold:

|                  |                                     |  |
|------------------|-------------------------------------|--|
| $2\frac{1}{2}\%$ | <i>of the first \$220 000 value</i> |  |
| 2%               | <i>of the next \$100 000 value</i>  |  |
| 1%               | <i>thereafter</i>                   |  |

(a) How much commission does an agent earn for selling a house for \$300 000?

(b) An agent earned \$9900 commission. Find the price of the house he sold.

**EXAMPLE 4**

An iPod bought for  $\$(w + 20)$ , was later sold for  $\$(w - 30)$ .

Which of the statements below correctly describe the overall profit/loss after these two transactions?

- A A profit of  $\$(w - 50)$
- B A loss of \$50
- C A profit of  $\$(w + 10)$
- D A loss of  $\$(w - 50)$

**EXAMPLE 5**

A salesman earns \$200 per week plus \$40 commission for each item he sells. How many items does he need to sell to earn a total of \$2640 in two weeks?

***Solution*****EXAMPLE 6**

A sales person's weekly retainer is \$340. In a particular week the sales person earned \$490 after receiving commission for selling \$1050 of white goods. Calculate:

- (a) The commission, in dollars.
  
  
  
  
  
  
  
  
  
  
- (b) The rate of commission, as a percentage to the nearest percent.

**EXAMPLE 7**

The table below shows the Weekly Gross Pay ( $W$ ) for employees of a company. It uses the employee's Pay Rate ( $R$ ), Normal Hours ( $N$ ) worked and the number of Overtime Hours ( $V$ ) worked for the week. Overtime is paid at time-and-a-half.

| <i>Weekly Wages</i> |                 |                     |                       |                         |
|---------------------|-----------------|---------------------|-----------------------|-------------------------|
| <i>Name</i>         | <i>Pay Rate</i> | <i>Normal Hours</i> | <i>Overtime Hours</i> | <i>Weekly Gross Pay</i> |
|                     | ( $R$ )         | ( $N$ )             | ( $V$ )               | ( $W$ )                 |
| Mi                  | (b)             | 40                  | 2                     | \$408.50                |
| Tim                 | \$9.50          | 35                  | 3                     | (a)                     |
| Mary                | \$11.30         | 35                  | (c)                   | \$480.25                |

- (a) Calculate Tim's *Weekly Gross Pay*.
- (b) Calculate Mi's hourly *Pay Rate*.
- (c) How many *Overtime Hours* did Mary work?



**EXAMPLE 8**

Michael's investment of \$22,000 earns \$4840 in simple interest after 4 years.

Find the annual rate of interest earned by Michael's investment.

***Solution***

**EXAMPLE 9**

The market value of Kim's shares in the local bank have a market value of \$24.30. If a dividend of 95 cents per share is declared, find the dividend yield.

***Solution***

**EXAMPLE 10**

In 2013, a trolley of groceries at the local supermarket costs \$174. Assuming an annual inflation rate of 2.8%, by how much will this trolley rise in cost in 10 years?

**Solution****EXAMPLE 11**

Sarah works as a technical adviser for a pharmaceutical company and earned \$58,900 in the last financial year. She pays \$13,512 in PAYG tax instalments.

Because she uses her own car when she calls on clients, she is entitled to a tax deduction of 40 cents per km travelled. She travels 3520 km in the year.

She pays \$27 per month in union fees, \$18 per fortnight in dry cleaning of her corporate blazer and has spent \$785 on training courses.

She also sponsors a child through World Vision paying \$45 per month.

(a) Calculate Sarah's allowable tax deductions for the year.

(b) Find her taxable income.

(c) Find her tax payable.

| Taxable income       | Tax on this income*                           |
|----------------------|---|
| 0 – \$18,200         | Nil   |
| \$18,201 – \$37,000  | 19c for each \$1 over \$18,200                |
| \$37,001 – \$80,000  | \$3,572 plus 32.5c for each \$1 over \$37,000 |
| \$80,001 – \$180,000 | \$17,547 plus 37c for each \$1 over \$80,000  |
| \$180,001 and over   | \$54,547 plus 45c for each \$1 over \$180,000 |

(d) Briefly explain why Sarah is entitled to a tax refund.

**EXAMPLE 12**

Jill has a total income of \$76,500. During the year she has allowable tax deductions totalling \$2,350. Her Medicare Levy is 1.5% of her taxable income. How much is she required to pay?

**Solution****EXAMPLE 13**

How much GST is contained in the price of an LCD TV with a retail price of \$2,090?

**Solution****EXAMPLE 14**

Angelique has a taxable income of \$43560. She uses the tax table below and calculates that she must pay \$10824 in tax at the end of the financial year. Use this information to find the value of **(A)**.

| <b><i>Taxable income</i></b> | <b><i>Tax payable</i></b>                           |
|------------------------------|---|
| \$0 - \$12 000               | Nil   |
| \$12 001 - \$30 000          | Nil plus 30 cents for each \$1 over \$12 000        |
| \$30 001 - \$45 000          | <b>(A)</b> plus 40 cents for each \$1 over \$45 000 |
| \$45 001 - \$60 000          | \$11 400 plus 50 cents for each \$1 over \$45 000   |
| Over \$60 000                | \$18 900 plus 55 cents for each \$1 over \$60 000   |

**Solution**

## HSC FINANCIAL MATHEMATICS

When you purchase 'big ticket' items such as cars, boats, televisions and the like, retailers and financial institutions have various terms and conditions that are implemented for the consumer when they are paying their items off.

The most common way of purchasing items today is using a **credit card**. These handy pieces of plastic enable us essentially to borrow money from a bank and repay it (usually with interest) over a given time period. Credit cards function in two ways:

- **Interest-free periods** – when you have a certain period of time (usually 55 days) before needing to pay for purchased items. After that a significantly high interest rate kicks in and interest is charged daily.
- **No interest-free periods** – when interest kicks in immediately from the time of purchase. The interest rate is usually lower than that of a credit card with an interest-free period and once again, interest is calculated daily.
- Make sure you READ the questions carefully!



The interest rate on a credit card is generally expressed as an annual rate of interest. You will then need to convert it to a daily rate (and then to a decimal) as interest is calculated on a daily basis.

The simple interest formula is used when working with credit cards.

Alternatively you may purchase items **on terms**. This is when you pay a deposit and 'borrow' the remainder. This amount is then repaid in equal (usually monthly) instalments with interest. This is also known as a **flat rate loan** as the simple interest formula is used to calculate the interest charged.

Another type of loan is a **reducing balance loan** where the amount of interest charged each month is dependant on the outstanding balance on the loan and not the initial amount borrowed as with flat rate loans. Home loans are a classic example of a reducing balance loan. In these cases, the compound interest formula is used in calculations.

In questions relating to reducing balance loans, you will often be required to show the ability to "track" a loan for the first few months by filling in certain missing values in a table.



Loans are looked at in further detail in FM5

Students are often required to use a **repayment table** to make calculations. In these, the repayment for loans at varying interest rates and for varying terms is shown. Sometimes the figures given are "per \$1,000" of borrowings meaning multiplication of the figure in the table may be required.

- An **annuity** is a type of investment where regular equal contributions are made. The most common type of annuity is a superannuation fund.
- When a single deposit is made, the future value of this investment can be calculated by simply applying the compound interest formula:

$$A = P(1 + r)^n$$

- Tables are used in the calculation of the **future and present value of an annuity**.
- **Depreciation – The straight line method**

The asset has an initial value of  $V_0$  and if it has been losing value at a rate of \$D per period for n periods, then the **current or salvage value** of the asset, S, is found by using the formula,

$$S = V_0 - Dn$$

- **Depreciation – The declining balance method**

When this method is applied, the asset is assumed to be losing a fixed percentage of its current value each year. If the asset had an initial value of  $V_0$  and it has been losing value at a rate of r% per period for n periods, then its salvage value, S, is found by using the formula,

$$S = V_0(1 - r)^n$$

Notice the similarity to the compound interest formula.

- You may be required to complete a table of values tracking the value of the asset over time and then graph S against n.

It is very common to see graphs in depreciation questions, even if it was given to you. Examiners are more interested in your ability to interpret the graph rather than create it.

- You need to also be familiar with the use of either method for the purpose of calculating **tax deductions**.



Don't make the assumption that if the question quotes a percentage rate of depreciation, that it is automatically a declining balance question. Read the question carefully.

**EXAMPLE 15**

Vic buys a ride on lawn mower with a cash price of \$8,400, on the following terms.

*15% deposit and monthly repayments of \$275 per month over 3 years.*

Find:

- (a) The deposit paid by Vic.
  
  
  
  
  
  
  
  
  
  
- (b) The amount that Vic borrows.
  
  
  
  
  
  
  
  
  
  
- (c) The cost of the lawn mower on terms.
  
  
  
  
  
  
  
  
  
  
- (d) The interest charged.
  
  
  
  
  
  
  
  
  
  
- (e) The flat rate of interest per annum, on the lawnmower, to 1 decimal place.

**EXAMPLE 16**

Anne's credit card has no annual fee. She is, however, charged 16.95% on any purchases from and including the day of purchase.

- (a) Express 16.95% p.a. as a daily interest rate to 4 decimal places.
- (b) Anne buys a dress for \$420 on April 20. She pays the account on May 15. Calculate the interest charged on this purchase.

**EXAMPLE 17**

The table below is used by Montgomery's Bank to calculate home loan repayments.

| Monthly Repayments on a \$1000 loan |          |          |          |          |          |          |
|-------------------------------------|----------|----------|----------|----------|----------|----------|
| Rate                                | 10 years | 12 years | 15 years | 17 years | 20 years | 25 years |
| 8.25%                               | \$12.27  | \$10.96  | \$9.70   | \$9.13   | \$8.52   | \$7.88   |
| 8.5%                                | \$12.40  | \$11.10  | \$9.85   | \$9.28   | \$8.68   | \$8.05   |
| 8.75%                               | \$12.53  | \$11.24  | \$9.99   | \$9.43   | \$8.84   | \$8.22   |
| 9%                                  | \$12.67  | \$11.38  | \$10.14  | \$9.59   | \$9.00   | \$8.39   |
| 9.25%                               | \$12.80  | \$11.52  | \$10.29  | \$9.74   | \$9.16   | \$8.56   |
| 9.5%                                | \$12.94  | \$11.66  | \$10.44  | \$9.90   | \$9.32   | \$8.74   |
| 9.75%                               | \$13.08  | \$11.80  | \$10.59  | \$10.05  | \$9.49   | \$8.91   |
| 10%                                 | \$13.22  | \$11.95  | \$10.75  | \$10.21  | \$9.65   | \$9.09   |
| 12%                                 | \$14.35  | \$13.15  | \$12.00  | \$10.55  | \$11.01  | \$10.35  |

- (a) Find Celeste's monthly repayment if she borrows \$280 000 over 20 years at an interest rate of 8.75%.

(b) Find the cost of Celeste's loan (i.e. the total of her repayments).

(c) How much interest does Celeste pay over the term of the loan?

(d) Show that the equivalent flat rate of interest is 5.608%.



**EXAMPLE 18**

The table below shows future values of an annuity of \$1.

| Future Values of \$1 |                            |       |       |       |       |       |       |       |       |       |
|----------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Period               | Interest Rate (per period) |       |       |       |       |       |       |       |       |       |
|                      | 1%                         | 2%    | 3%    | 4%    | 5%    | 6%    | 7%    | 8%    | 9%    | 10%   |
| 1                    | 1.000                      | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2                    | 2.010                      | 2.020 | 2.030 | 2.040 | 2.050 | 2.060 | 2.070 | 2.080 | 2.090 | 2.100 |
| 3                    | 3.030                      | 3.060 | 3.091 | 3.121 | 3.153 | 3.184 | 3.215 | 3.246 | 3.278 | 3.310 |
| 4                    | 4.060                      | 4.121 | 4.184 | 4.247 | 4.310 | 4.375 | 4.400 | 4.506 | 4.573 | 4.641 |
| 5                    | 5.101                      | 5.204 | 5.309 | 5.416 | 5.526 | 5.637 | 5.751 | 5.867 | 5.985 | 6.105 |
| 6                    | 6.152                      | 6.308 | 6.468 | 6.633 | 6.802 | 6.975 | 7.153 | 7.366 | 7.523 | 7.716 |
| 7                    | 7.214                      | 7.434 | 7.663 | 7.898 | 8.142 | 8.394 | 8.654 | 8.923 | 9.200 | 9.487 |
| 8                    | 8.286                      | 8.538 | 8.892 | 9.214 | 9.549 | 9.898 | 10.26 | 10.64 | 11.03 | 11.44 |
| 9                    | 9.369                      | 9.755 | 10.16 | 10.48 | 11.03 | 11.49 | 11.98 | 12.49 | 13.02 | 13.60 |
| 10                   | 10.46                      | 10.95 | 11.46 | 12.00 | 12.58 | 13.18 | 13.82 | 14.49 | 15.19 | 15.94 |

Don is saving for a holiday. He deposits \$2,000 into an account at the end of each year for 5 years. The account pays 8% per annum compounded annually.

- (a) Use the table to show that the value of Don's investment at the end of 5 years is \$11,734.
- (b) Don changes his mind and decides to take a tour that will cost \$20,500. How long will he need to contribute \$2,000 per year to this account before he can afford this tour?

**EXAMPLE 19**

Sarah borrowed \$270 000 for a home unit. The interest rate is now 9% per annum compounded monthly. She repays \$2 300 per month and expects to repay the loan within 30 years.

| Month | Opening balance | Monthly interest                       | Monthly repayment | End of month balance |
|-------|-----------------|--|-------------------|----------------------|
| 1     | \$270 000       | $\$270\,000 \times 0.0075 = \$2092.50$ | \$2 300           | \$269 792.50         |
| 2     | \$269 792.50    | <b>A</b>                               | \$2 300           | <b>B</b>             |

(a) Explain why the value 0.0075 is used to calculate the interest for the month.

(b) Calculate the values of **A** and **B** in the table showing all of your working.

**EXAMPLE 20**

The following table gives the monthly repayment for each \$1000 borrowed:

| <b>Term of Loan (years)</b> | <b>6.00%</b> | <b>6.25%</b> | <b>6.50%</b> | <b>6.75%</b> | <b>7.00%</b> | <b>7.25%</b> | <b>7.50%</b> |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 5                           | \$19.33      | \$19.45      | \$19.57      | \$19.68      | \$19.80      | \$19.92      | \$20.04      |
| 10                          | \$11.10      | \$11.23      | \$11.35      | \$11.48      | \$11.61      | \$11.74      | \$11.87      |
| 15                          | \$8.44       | \$8.57       | \$8.71       | \$8.85       | \$8.99       | \$9.13       | \$9.27       |
| 20                          | \$7.16       | \$7.31       | \$7.46       | \$7.60       | \$7.75       | \$7.90       | \$8.06       |
| 25                          | \$6.44       | \$6.60       | \$6.75       | \$6.91       | \$7.07       | \$7.23       | \$7.39       |

- (a) Sophia decides to go on a trip but she has no savings. She decides to borrow \$10 000 at 7.25% p.a. and will repay over 5 years.

Use the table to find her monthly repayment.

- (b) How much interest does Sophia pay on the loan?

**EXAMPLE 21**

\$25000 is invested for 10 years at 7% p.a. with interest compounded monthly. Calculate the interest earned in this time.

**Solution**

**EXAMPLE 22**

If Amanda needs \$15500 to pay for her university course in 4 years' time, what amount of money can her father invest today in an account which earns 8% pa compounded monthly?

**Solution****EXAMPLE 23**

A new Holden Commodore was advertised at \$36 000. Tony bought the car with the conditions of making monthly repayments of \$585 for 10 years.

What is the flat interest rate that Tony has agreed to pay?

- A 1.625%
- B 9.5%
- C 16.25%
- D 19.5%

**EXAMPLE 24**

A photocopying machine cost \$24,000 new. Use the straight line method of depreciation and a depreciation rate of 12% per year to find:

- (a) The amount by which its value drops each year.
  
  
  
  
  
  
- (b) The salvage value after 5 years.
  
  
  
  
  
  
- (c) When the photocopier will be sold. The value must be below \$4,000 before it can be sold.

**EXAMPLE 25**

The furniture in the foyer of the Hilton Hotel cost \$65,000. It depreciates according to the straight line method. It is expected that the furniture will have a life of 8 years after which time they will be sold for \$23,400. Find:

- (a) The annual rate of depreciation (in dollars).
  
  
  
  
  
  
- (b) The annual depreciation as a percentage of the cost price.

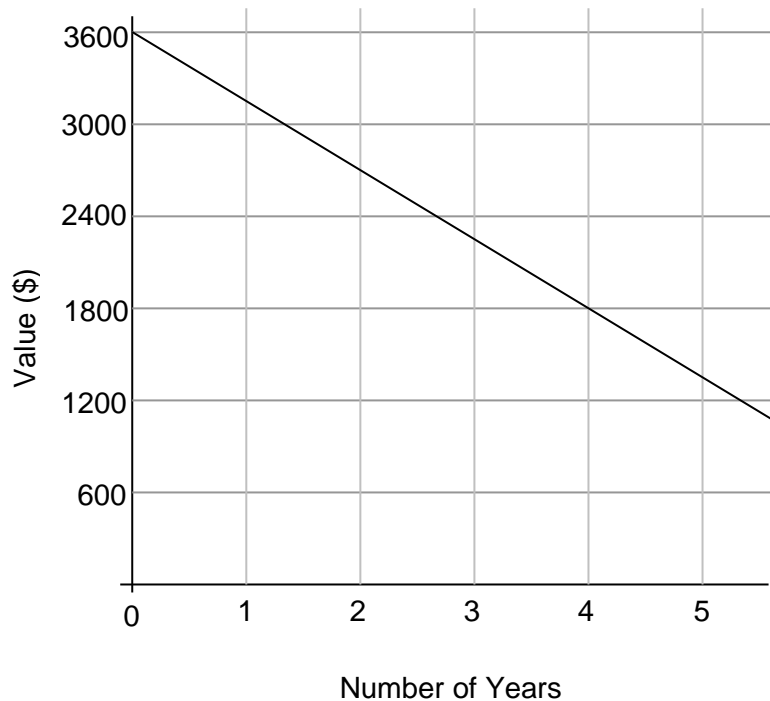
**EXAMPLE 26**

A van was bought 6 years ago and has been depreciating using the declining balance method at 12% per annum. Its salvage value is \$12,540. Its purchase price is closest to:

- A \$25,080
- B \$27,000
- C \$23,750
- D \$33,250

**EXAMPLE 27**

A laptop was bought and depreciated over time as shown in the graph below.



- (a) What was the cost of the computer when it was new?
- (b) By how much did the computer depreciate each year?

**EXAMPLE 28**

A company car was purchased for \$42,400 and has a salvage value of \$18,400 after 3 years. Find the annual rate of depreciation if the declining balance method was used. Give your answer to 1 decimal place.

**Solution**