



# JOHN EDMONDSON HIGH SCHOOL

## Assessment Notification

Faculty: Mathematics Course: Mathematics Advanced (Core + All Paths) Year: 9

Assessment Task: 1

Assessment Weighting: 20% Due: Term 1, Week 9 Date: Thursday 28<sup>th</sup> March 2024

Task Type: Hand in Task  In Class Task  Practical Task

### Outcomes assessed (NESA)

MA5-FIN-C-01, MAO-WM-01. MA5-FIN-C-02, MAO-WM-01

Please Note: further information about these outcome codes can be found on the NESA Website

### Task Description/Overview

This in class written examination will consist of short answer questions. No reference material is allowed during the examination

Time allowed: 45 Minutes + 2 minutes reading time

Equipment Required: Black Pen(s) and a NESA approved calculator

### Detailed Assessment Task Description

Questions may require students to:

#### Financial Mathematics A

Solve problems involving earning money

- Solve problems involving wages given an hourly rate of pay including penalty rates for overtime, weekends and public holidays
- Calculate earnings from non-wage sources exploring commission, piece work and royalties
- Calculate weekly, fortnightly, monthly and yearly earnings assuming 1 year = 52 weeks
- Calculate leave loading by finding a percentage of eligible normal pay
- Investigate sources of published tables or online calculators and use these to calculate the weekly, fortnightly or monthly tax to be deducted from a worker's pay under the Australian Pay-As-You-Go (PAYG) taxation system
- Determine annual taxable income by exploring allowable deductions and current tax rates
- Calculate net earnings after deductions and taxation

Solve problems involving simple interest

- Establish and use the formula  $I = Prn$  to find simple interest where  $I$  = simple interest,  $P$  = principal,  $r$  = interest rate per time period and  $n$  = number of time periods
- Apply the simple interest formula to solve problems related to investing money at simple interest rates, both algebraically and graphically

Solve problems involving spending money

- Calculate the cost of buying items on terms, by paying an initial deposit and making regular repayments
- Examine payment options involving *buy now, pay later* and investigate the costs associated with these schemes for purchasing goods
- Examine the principles behind short-term loans involving small dollar amounts and compare borrowing costs associated with using these products

#### Financial Mathematics B

Solve problems involving compound interest and depreciation

- Examine compound interest for up to 3 time periods using repetition of the formula for simple interest
- Associate the calculation of the total value of a compound interest investment with repeated multiplication, using digital tools
- Establish and use the formula  $FV = PV(1 + r)^n$  to find compound interest where  $FV$  = future value of the investment,  $PV$  = present value of the investment,  $r$  = interest rate per time period and  $n$  = number of time periods
- Solve problems involving compound interest
- Compare simple interest with compound interest in practical situations
- Use the compound interest formula to establish the depreciation formula  $S = V_0(1 - r)^n$  where  $S$  = salvage value,  $V_0$  = initial value of the asset,  $r$  = depreciation rate per time period and  $n$  = number of periods
- Solve problems involving the depreciation of an asset

<b>Test/Examination Structure</b>	
<b>Section Description</b>	<b>Marks Available</b>
Financial Mathematics A and B	50
<b>Total Marks for this task</b>	<b>50</b>

**Satisfactory completion of courses**

A course has been satisfactorily completed when the student has:

- Followed the course developed/endorsed by the NSW Educational Standards Authority (NESA).
- Applied himself/herself with diligence and sustained effort to the set tasks and experiences provided in the course.
- Achieved some or all the course outcomes.