

Level 3 Certificate MATHEMATICAL STUDIES

Formulae Sheet

Information

This formulae sheet should be issued to all candidates for use with all Mathematical Studies examinations.

These formulae are not required to be learnt. A clean copy of this formulae sheet will be issued to you in the examination.

Volume and surface area

Shape	Volume	Surface area
Cone	$V = \frac{1}{3}\pi r^2 h$	$A = \pi r l + \pi r^2$
Sphere	$V = \frac{4}{3}\pi r^3$	$A = 4\pi r^2$
Pyramid	$V = \frac{1}{3}\text{base} \times h$	

Financial calculation – AER

The annual equivalent interest rate (AER), r , is given by

$$r = \left(1 + \frac{i}{n}\right)^n - 1$$

where i is the nominal interest rate, and n the number of compounding periods per year.

Note: the values of i and r should be expressed as decimals.

Financial calculation – APR

The annual percentage interest rate (APR) is given by

$$C = \sum_{k=1}^m \left(\frac{A_k}{(1+i)^{t_k}} \right)$$

where $\pounds C$ is the amount of the loan, m is the number of repayments, i is the APR expressed as a decimal, $\pounds A_k$ is the amount of the k th repayment, t_k is the interval in years between the start of the loan and the k th repayment.

It may be assumed that there are no arrangement or exit fees.

END OF FORMULAE SHEET

Copyright information

For confidentiality purposes, all acknowledgements of third-party copyright material are published in a separate booklet. This booklet is published after each live examination series and is available for free download from www.aqa.org.uk.

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders may have been unsuccessful and AQA will be happy to rectify any omissions of acknowledgements. If you have any queries please contact the Copyright Team.

Copyright © 2021 AQA and its licensors. All rights reserved.

