



LEVEL 2 CERTIFICATE EXAMINER'S REPORT

ADDITIONAL MATHEMATICS

SUMMER 2014

Grade Boundaries

Grade boundary information for this subject is available on the WJEC public website at:
<https://www.wjecservices.co.uk/MarkToUMS/default.aspx?l=en>

Online results analysis

WJEC provides information to examination centres via the WJEC secure website. This is restricted to centre staff only. Access is granted to centre staff by the Examinations Officer at the centre.

Annual Statistical Report

The annual Statistical Report (issued in the second half of the Autumn Term) gives overall outcomes of all examinations administered by WJEC.



SUMMER 2014

LEVEL 2 CERTIFICATE IN ADDITIONAL MATHEMATICS

Chief Examiner: Ms L Mason

There was no evidence to suggest that the examination paper was too long for candidates, as there were clearly responses in later questions.

A number of candidates were obviously well prepared for the examination. Other candidates did not seem to have been ready, or mature enough for this examination.

As item level data is available to all centres, by centre and for individual candidates with comparison of all candidates sitting these examinations, this report will focus on common errors and misconceptions to aid the interpretation of the data available rather than focus whether each question was well answered or not.

1	Many candidates answered part (a) correctly. Candidates have greater difficulty in working with negative or fractional powers.
2	Many candidates attempted to factorise and solve in part (a). Notation in part (b) occasionally let candidates down, for example writing $(x + 5x)^2$ instead of $(x + 5)^2$.
3	Many candidates used knowledge of proportion of circumference, whilst other candidates used knowledge of similarity. Seeing the different techniques applied was pleasing. However, a few candidates attempted incorrect strategies, such as cosine rule.
4	It is important that candidates appreciate the need to start with one side to show equivalence. It is not appropriate to multiply throughout, it is correct to express the left hand side as having a common denominator.
5	Notation is important in working through the stages of first principles. Many candidates had good knowledge, but were unsure of the importance of notation in the processes being recorded.
6	In part (a) candidates were requested not to use calculators and to show working. Answers alone were not credited. It was important to show the stages of working with $(3 - \sqrt{2})/(3 - \sqrt{2})$. A number of candidates had insecure knowledge when working with fractional indices. Methods such as factorising or splitting denominators were not often accurate.
7	Many candidates accurately calculated the length of DE, however, a few candidates did not quote a formula based on Pythagoras' Theorem accurately. A number of candidates 'lost a negative' in the gradient in part (b), or started with an inverted expression for gradient. There were many errors in manipulating substitutions of values to find the equation in part (c).
8	This question was reasonably well answered. However, a few candidates found the x-coordinates only.

9	Candidates were requested not to use calculators and to show working. It is important to show working and not use a calculator in order to be able to demonstrate skills in order for marks to be awarded.
10	Many candidates had sound knowledge of the factor theorem. There were a number of arithmetic errors.
11	Although a number of candidates seemingly didn't realise how to start in part (a), many other candidates wrote down formulae for area and used the information given accurately. In part (b) a few candidates did not understand how to write down a quadratic equation by equating xy from part (a), yet many candidates were successful.
12	A number of candidates had good knowledge of differentiation and integration. Occasionally the constant of integration was omitted in part (b). The negative index in part (b) also caused a few problems for candidates, with basic negative number knowledge being insecure.
13	A few candidates had little idea of how to decide if lines were parallel or perpendicular. Some candidates did select appropriate equations, but did not explain the selection with reference to the gradient.
14	It is important to use a complete method. A number of candidates used trial and improvement methods, but unfortunately they did not find both values. The method of solving the simultaneous equations through equating or substitution is more effective.
15	A few candidates were unsure how to show that the given points were on the curves, for others it was a simple substitution and evaluation. Many candidates are able to integrate, but a few differentiated in error.