Principal Examiner Feedback

Summer 2013

Edexcel Level 2 Award (AAL20)

Algebra

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Edexcel Award in Algebra (AAL20)
Principal Examiner Feedback – Level 2

Introduction

This is the first time this qualification has been awarded. The cohort was small and varied widely in ability. Some candidates were well prepared and several scored full marks. Centres should consider using the equivalent level 3 qualification for these candidates. The less able candidates struggled with the concept of sketching a graph and often tried to plot points. A more fluent graph was really required. A good level of algebraic manipulation was seen. Where candidates did well they were well prepared and so centres ensure that candidates feel fully prepared for the award system which is slightly different to the GCSE system.

Reports on Individual Questions

Question 1

Generally well done, the most common errors came from adding the indices on part c and with the in ability to deal with negative numbers in part (e).

Question 2

Many candidates gained full marks however the main loss of marks was for misreading the scale on the y axis.

Question 3

Simplifying algebra was attempted by almost all candidates with most getting at least part marks on each section. Part (a) was well done but in part (b) many did not deal with the term in k^2 correctly. Part c was often the worst part for candidates as they tried to subtract their final expansion. In part d most could multiply out the brackets and so scored part marks but some then struggled to deal with the -6+5 and so lost the last mark.

Question 4

This was a well answered question with many candidates successfully using a table and plotting points. The most common wrong answer, coming from a table, lead to a 'v' shaped graph, yet another indication of candidates in ability to deal with negative numbers.

Question 5

In part (a), candidates struggled to deal with the fraction, many thought 4p was 20 by itself and so 5 was a popular incorrect answer.

Part (b) this was more accessible to candidates with more scoring full marks. A few methods were seen with some trial and error methods seen. Whilst in part c most candidates could do the common first step of multiplying out the brackets and so gained a method mark. Some then went on to fully process the answers whilst others struggled a little as the answer is a non integral negative number.

Question 6

On the whole factorisation was either well done or not attempted. It did seem that some students did not understand what they were meant to do, centres should check candidates understand this term and ensure they know what is required. As the word fully is no longer used candidates should be encouraged to check that the factorisation they achieve is a full factorisation. Many partial factorisations were seen.

Question 7

The art of sketching graphs is not common in GCSE mathematics and so many candidates actually tried to construct a table and plot points. Whilst this approach is possible it is not strictly in line with the assessment objective. Centres should encourage candidates to recognise graph shapes from their equations and then just sketch the general shape.

The label of the crossovers with the axes should also be encouraged although the assessment of the x intercepts will not be used on this specification the interception of the y axis will. Candidates should be aware of what happens to the graph for extreme values of x and y.

Question 8

Part (a) was a well answered question with many correct answers seen.

In part (b) a few candidates gave an answer of 11, just transferring the value of t from part (a). Most candidates used formal methods rather than flow charts to rearrange and many were able to at least partially rearrange correctly.

In part (c) many candidates were able to substitute and get to the point 49--48 but then could not deal with the double negative signs and gave an answer of 1 instead of 97, thus losing the accuracy mark.

Question 9

A well answered question with many plotting points correctly and joining them up. A good number used the graph to read off at 110 minutes but some did try to rearrange and solve for weight. Reading from the graph should be encouraged as it was the far easier method.

Question 10

Part (a) was a very well answered question with marks awarded throughout. A good proportion of candidates could answer all three parts of this question with just the occasion slip in arithmetic.

Question 11

This question proved more difficult for candidates. Some tried to give the equation of the line others struggled to do anything meaningful. Centres should ensure that they check if pupils are able to use gradient effectively as it is a skill required several times in different aspects of this specification.

Question 12

Part (a) was a well answered question with many candidates scoring on this part of the question. In part (b) candidates were able to see the need for a relationship between -1 and y but were not always able to technically describe it. The number line ending at 5 did confuse some candidates and they felt the need to close the inequality. They should be reminded that the arrow indicates an open inequality. For part (c), most candidates could draw the required line segment but many struggled to put open circles to confirm the inequality. Whilst part d was a mixed question, some left it blank but many were able to show good working out that scored marks. The final answer was not always an inequality and this was required for full marks.

Question 13

Candidates were better able to access this question better when compared to the question about gradient only. They often got part of the equation correct with a spread of marks for either the gradient or the intercept.

Question 14

Most candidates could draw at least part of the travel graph and many were fully correct. A good proportion of candidates were able to identify the correct time period and many were able to associate the gradient with speed, leading to the steepness being representative of how fast the cycle was travelling. There were some impressive answers for this question.

Question 15

Most candidates were able to gain part marks for this question. With many adding m and t together. They were also happy to use $8n$, but not always correctly. Part marks were often awarded for this question.

Question 16

As the last question this was answered either extremely accurately with full marks awarded often or rather less accurately with mistakes being made in both the table and then in plotting their points. The substitution of -1 and 0.5 proved equally challenging.

Summary

Based on their performance on this paper, candidates are offered the following advice:

- Curve sketching rather than just plotting

- Dealing with negative substitutions

- Simplifying fully

- Being able to give stand alone values for gradients.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link: