edexcel

Principal Examiner Feedback

November 2014

Pearson Edexcel GCSE
In Mathematics B (2MB01)
Higher (Non-Calculator) Unit 2

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

November 2014
Publications Code UG040299

GCSE Mathematics B (2MB01)
Principal Examiner Feedback – Higher Paper Unit 2

Introduction

This paper was found to be reasonably straight forward at the start but a number of the later questions caused some students problems particularly Q12 and Q14. The paper produced a reasonable range of marks for the award of grades.

Generally speaking, the standard of straightforward algebraic knowledge was quite good but students often did not write their answer in its simplest form when asked. Some oversimplified their answer incorrectly.

A significant number of marks were lost where students did not write down a statement of the result in the starred questions. Circling an answer is insufficient; a statement giving the required decision based on written evidence is needed. A statement of how to work something out will also not gain any marks when a question requires an explanation.

Some students give more than one method and more than one answer. When this is the case, unless the student indicates which is their final answer, no marks can be awarded. This was often apparent in the longer questions and where the answer has to be identified within the working

Report on Individual Questions

Question 1

A well understood question with almost all students gaining at least one mark for part (a). In part (b) students frequently made errors in calculating $4 \times 3^2 - 5$ as they squared the 4×3 rather than the just the 3. The answer of 139 scored no marks unless the correct substitution was shown when a method mark was awarded.

Question 2

Almost all students were able to make a start on this question though about a third tried to find the area using 12×21 and so scored no marks. A small minority of students also tried to find the perimeter of the shape and these did score some marks if they found the length and width correctly.

Question 3

This was a well understood question with almost all students being able to score at least one mark and often two. Some students did make the correct calculations but then chose the incorrect number of cookies.

Question 4

There were many fully correct answers to this straight line question. A smaller number than usual forgot to draw in the line, which was good. However, as usual, many made errors in calculating with the negative values of x

Question 5

This question on Lowest Common Multiples was generally well answered though many students did let themselves down due to making slips in simple calculations. Almost all students chose to list the multiples rather than work with factors.

Question 6

There were many different ways of attempting to answer this question but often students did not show a coherent method. Some chose to work with surface area so did not score any marks whilst other lost a mark due to not being able to deal with the zeroes in 60 × 100 × 20 or dividing by 8000.

Question 7

This question was not well answered as most students could not deal with the complexity of changing between metric and imperial units and dealing with the number of seconds in an hour. Some students were able to change mph to km/h and some were able to change 1 km in 6 seconds to km/m but fully correct answers were rare.

Question 8

Many students could write the mixed numbers as improper fractions but then errors were made either in the multiplications or they omitted to change the improper fractions back to a mixed number.

Question 9

This question was, in most cases, poorly answered with few students being able to find all 3 of the elements of the coordinates of B. Some did gain one mark for finding two of the elements.

Question 10

This question was not well answered as students often wrote 7 or 0 instead of 1 for part (a), 16 or –8 or $\frac{1}{2^4}$ instead of $\frac{1}{16}$ for (b) with $\frac{14\sqrt{7}}{7}$ being the most common answer for (c) which only scored one mark as it was not written in its simplest form.

Question 11

This manipulative algebra question was reasonably attempted, with most students being able to gain at least one mark in each part. Very few students scored no marks at all.

Question 12

This question was not well understoo. Partial marks were awarded for a few students who were able to establish the coordinates of B as (0, 5) and/or C as (10, 0).

Question 13

In this question many students realised that they needed a common denominator and this mark was often scored. Few students gained all three marks as the negative sign in front of the second fraction caused problems for many students.

Question 14

Few marks were awarded in this question as it was poorly understood. The idea of a ratio was seldom used but many students did write the ratios as lengths on the diagram indicating that they had not really understood the concept of the question

Summary

Based on their performance on this paper, students should:

- recognise the difference between perimeter and area for a rectangle, surface area and volume for a cuboid
- lay out their working to show their strategy when solving a problem
- state units with their working
- read the question carefully and give the answer in the form asked for e.g. Qu 8 many students did not give the answer as a mixed number
- always write a statement with the answer for a starred question and also check that it answers the question asked

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:
http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx

Pearson Education Limited. Registered company number 872828
with its registered office at 80 Strand, London WC2R 0RL