

Examiners' Report

Summer 2016

Pearson Edexcel Level 3 in
Mathematics in Context (7MC0/02)

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

Summer 2016

Publications Code 7MCO_02_1606_ER

All the material in this publication is copyright

© Pearson Education Ltd 2016

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>

Mathematics in Context Paper 2: Applications Specification (7MC0/02)

General Introduction

This is the first time this qualification has been set.

The paper was accessible to all students, with most questions attempted by a good proportion of students.

The standard of work seen was variable and some questions were better answered than others.

Reports on Individual Questions

Question 1

Q01 (a) and Q01 (b) were generally very well answered, though a significant number of students did not plot their points at the correct midpoint on the time axis using either the 2nd or 3rd quarter. A number plotted at either the 1st or 4th quarter and scored no marks in this part. Part Q01(c) was a good discriminator, a number of students simply found the value of the 1st quarter in 2015 or gave an answer in thousands. A significant number just described the trend with no numerical answer.

Question 2

Q02 (a) was found to be more challenging with few students able to write down a fully correct expression. Q02 (b) was generally well answered even when Q02 (a) was not, most often by calculating the value at the end of the three-year period. Those who had the correct formula and used it in Q02 (b) occasionally subtracted their answer from £30000. Q02 (c) and Q02 (d) were again well-answered though embedded answers were often seen in Q02(c) and a significant number struggled with the percentage requirement in Q02 (d).

Question 3

In Q03 (a) students were usually able to select the correct information but often included the price of the car in their calculations. An extremely large number of students failed to convert the running costs from pence to pounds and got unrealistic answers. In Q03 (b) very few students used an algebraic approach preferring trial and improvement. The trial and improvement methods were often poorly set out and very few scored more than one mark.

Question 4

Most students did not use the terms in the table when answering the question. Many were able to score the first mark but very few scored all three.

Question 5

Q05 (a) and Q05 (b) were answered fully correctly by the vast majority of students. Q05 (c) was usually correct but a significant number unfortunately calculated 20% rather than 2%. Q05 (d) was found to be less accessible with few students able to answer the question in the required way.

Question 6

The majority of students found this question challenging. Of those who were able to attempt this question, fully correct answers were often seen but again there was confusion with units and a number of students compared £3000 and £2800 with £1500000.

Question 7

Most students scored full marks on this question. In Q07 (a) a very small number failed to round their answer and an even smaller number were unable to use the formula correctly. In Q07 (b) most were able to give an appropriate assumption.

Question 8

Students struggled using rates in Q08 (a). Many simply added 50 to the initial number. In Q08 (b) those who had obtained 4200 in Q08 (a) often then incorrectly used an arithmetic sequence and scored no marks. Many scored at least two of the three marks available in Q08 (c) and Q08 (d) even if Q08 (a) and Q08 (b) had been done poorly. Q08 (e) was a good differentiator. The M mark was very accessible though many students demonstrated a weak grasp of BODMAS and $P_6=5360$, $P_7=5628$ were often seen which meant that the last two marks were not accessible. The correct values for P_6 and P_7 were frequently seen but many students concluded that the negative value for P_7 meant that the model was incorrect.

Question 9

The most common approach with this question was to calculate the amount of fish newly infected each week rather than using the sum of a geometric series formula. The majority of students using this approach found 810 correctly but failed to find the total number of fish infected during the four-week period. Those who did attempt to find the total most often did so correctly though some included the ten fish introduced to the lake.

Question 10

Few correct answers were seen in Q10 (a). Q10 (b) was answered better but some students attempted to find just one inequality ie $1500y + 2500x \leq 12000$. In Q10 (c) a large number of students failed to attempt to show the inequalities from Q10 (a) despite being required to do so in the question. Of those who presented all five inequalities most found the correct Feasible Region. Most who attempted the question were able to give a correct objective function in Q10 (d). Very few fully correct answers were seen in Q10(e). Many attempted to simply read coordinates without checking them in the equations of the lines and very little full point-checking was seen. There were very few attempts at the objective line method. Q10 (f) was not fully accessible to the majority of students as they had failed to find the optimal point.

