
LEVEL 3

Mathematical Studies

1350/2B Critical Path and Risk Analysis
Report on the Examination

1350
2016

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General

This is a new specification, and generally students performed well, with no parts of the specification appearing to be inaccessible.

Most students correctly answered questions where it was reasonably clear what calculations were required. Straightforward questions involving critical analysis were also answered well.

On more challenging questions, where it was less obvious what calculations had to be carried out, many students were not able to find a way into the question and therefore gained few or no marks.

Overall the level of mathematical communication was good, with students providing clear solutions and responding accurately to instructions.

Question 1

Part (a) - A reasonably large proportion of students failed to answer this straightforward question on standard form correctly, so this would be a productive area for teachers to focus on in the future.

Part (b) - Some students lost marks by stating what was wrong but not suggesting improvements.

Part (c) - Few students gained full marks here. Many spotted that the 680 and/or the 5 were wrong, but not many gained the third mark by, for example, suggesting that he could state that the numbers are millions. A few students noticed that a calculation of the type $\frac{1230-58}{6}$ would be sufficient, but some of these wrongly used 145 instead of 58.

Part (d) - This was a challenging question. It required students to find the relevant information on the data sheet, and then to recognise that the question was about stratified sampling/proportion. In order to compare like with like, students had to add 40 to 900 or subtract 25 from 350; not many did this. Overall, few students gained more than one mark.

Part (e) - This was done very well, with most students clearly showing the relevant working and stating their conclusions.

Question 2

Part (a) - These were answered very well.

Part (b) - Nearly all students gained the 2 marks available for analysing Rena's statement. However, many found it difficult to make headway on analysing Paul's statement. Some assumed a world population of 7 billion, while the figures referred only to adults. Others stated that there was no way of calculating the world adult population from the figures given.

Those students who did make progress in calculating the world adult population often produced completely correct and clearly-reasoned solutions.

Question 3

Part (a) - This was answered very well; unfortunately, several students lost a mark by not labelling the horizontal axis “minutes”.

Part (b) Most students answered this correctly.

Question 4

Part (a) - Few students answered this correctly, and they may need more practice at this type of problem.

Part (b) - In contrast to 4a, this was done well, possibly because the probability was calculated as a fraction of the whole population.

Part (c) - There were many correct answers to this question, although some students used the data as if it referred to a sample rather than the whole UK population as stated.

Question 5

Part (a) - This was done very well. Many students used a tree diagram.

Part (b) A large number of students gained full marks on this quite challenging question. However, a similar number were not able to find a way of approaching the question and so gained no marks.

Question 6

Part (a) - Many students gained the first 3 marks by finding the expected profit at the computer fair, the expected profit at the agricultural show in the cases of it raining and not raining, and the probability of rain.

However, after this most students resorted to qualitative arguments and could not gain any more marks. Those who did go further usually reached a completely correct solution.

Part (b) - This was a difficult question. Several students found that the expected profit if it rained would be zero, but then stopped there and so gained only one mark.

Question 7

Part (a) - This was done very well, with a reasonable number of students gaining full marks. Nearly all students were able to draw the network, and most made good progress in finding the start and finish times. Among those who scored well, the most common error was to give an incorrect latest finish time at J.

Part (b) - This question was well answered.

Part (c) - A reasonable number of students gained full marks, showing a good understanding of critical path analysis.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results Statistics](#) page of the AQA Website.

Converting Marks into UMS marks

Convert raw marks into Uniform Mark Scale (UMS) marks by using the link below.

[UMS conversion calculator](#)