OXFORD
INTERNATIONAL
AQA EXAMINATIONS

INTERNATIONAL GCSE MATHEMATICS EXTENSION

(9260/2E) Paper 2E
Report on the examination

June 2019

REPORT ON EXAMINATION: INTERNATIONAL GCSE MATHEMATICS EXTENSION 9260/2E PAPER 2E JUNE 2019

Students appeared to find most questions accessible and were able to demonstrate their mathematical ability at all levels. There was no evidence of time pressure, with the majority of students completing the paper. Many students gave well-constructed solutions, but some did not follow the instructions in the question and consequently lost marks.

Topics that were well done included:

- statistical measures
- algebraic manipulation
- Venn diagrams
- calculation of areas
- use of surds.

Topics which students found difficult included:

- construction
- probability
- proof.

MULTIPLE CHOICE QUESTIONS 1-4

The first three multiple choice questions were very well answered with more than four fifths of students choosing the correct option. Only just over half of students chose the correct response for question 4 with the most common wrong answer being reflection in $y = 5$.

QUESTION 5

This question was well answered with three quarters of students gaining all three marks.

QUESTION 6

This question was well answered with three quarters of students gaining all three marks. Some worked out the number of days and/or the cost for travelling by train but did not make any further progress.

QUESTION 7

This question was well answered with three quarters of students gaining all three marks. Some students worked out the difference or even the ratio between the distances but were then unable to show how to convert this into a percentage increase.

QUESTION 8

This question was slightly less well answered with three fifths of students gaining all three marks. Some students gave the value of x as 105° incorrectly multiplying the angle by the same ratio as the sides.

QUESTION 9

Part (a) was very well answered, with nearly nine tenths of students choosing the correct answer. The most common incorrect response chosen was $3n$ -7. Part (b) was less well answered with just under half of students gaining full marks. Some students worked out the correct terms but gave their answers as the values of n rather than the value of the terms.

QUESTION 10

This question was not well answered with less than a third of students gaining full marks and over a half of students gaining one or zero. There was evidence that some students did not have the correct equipment with circles and bisectors being drawn by hand rather than being accurately constructed as required.

QUESTION 11

Most students answered this question well with three fifths of students getting part (a) correct and four fifths gaining full marks for part (b). It seems likely that some students didn't know the terms class interval and/or median.

QUESTION 12

This question was well answered with over three quarters of students gaining full marks and very few scoring zero.

QUESTION 13

Most students were able to make some progress on this question with three fifths gaining full marks. Some students were able to correctly work out the weight of the oil per ml but were unable to extrapolate the weight of the bottle from this.

QUESTION 14

Three fifths of students selected the correct response in part (a) with the most common incorrect response being A'UB. In part (b) nearly three quarters of students correctly listed the elements of set Q although one fifth either missed a couple of elements out or added incorrect ones gaining only one mark for this.

QUESTION 15

This question was quite well answered with almost two thirds of students gaining both marks. Very few gained one mark with students who did not know how to do it being unable to make a creditable start on the question.

QUESTION 16

This question was well answered with over three quarters of students gaining full marks. Some students could not correctly deal with the denominators and were therefore unable to make much progress in this question.

QUESTION 17

Nearly three quarters of students gained both marks for this question but a significant number did not give their answer in terms of π and therefore dropped one mark.

QUESTION 18

Three fifths of students selected the correct response. The most common incorrect responses were the matrices representing 90° rotations.

QUESTION 19

Only two fifths of students gained full marks for this question but a further fifth of students gained three out of four with a number of these students giving their answers as decimals rather than the exact answers (in surd form) as required.

QUESTION 20

For both parts of this question only about half of students gained full marks. In part (a) three quarters of students were able to correctly multiply by $(x - 2)$ but some were then unable to factorise and isolate x. In part (b) some students gained a mark by correctly taking the factor of three out but were unable to make any further progress.

QUESTION 21

Most students answered this question well with three fifths of students gaining full marks. Unfortunately some students used direct proportion instead of inverse proportion and gained zero marks.

QUESTION 22

Only just over half of students chose the correct response. The other three responses were equally popular among students who answered incorrectly.

QUESTION 23

Very few students were able to gain full marks for a comprehensive proof. Some students were able to provide some correct reasoning but were unable to get to the desired results. Others gave the necessary statements but did not provide reasons and lost at least one mark because of this.

QUESTION 24

Only two fifths of students gained full marks for this question and nearly half did not provide a creditable answer. For the students gaining two or three marks many different but acceptable methods were seen.

QUESTION 25

Part (a) was very well done with more than three quarters of students gaining the mark for a correct response. Part (b) was less well done with only about a quarter of students providing a fully correct proof worthy of all four marks and the majority of students failing to provide a creditable response at all.

QUESTION 26

This question was well answered with more than half gaining full marks and the vast majority gaining some credit for their answer. Some students lost marks for omissions when multiplying out.

QUESTION 27

This question was very well answered with nearly three quarters of students gaining full marks. Most students who made a creditable start to the question were able to go on to provide a fully correct response and they appeared to have no difficulty in dealing with the surds.

QUESTION 28

For parts (a) and (b) of this question about half of students gained full marks. In part (a) some students gained full marks by using the mid-point parallelogram rule; this was unexpected but proved successful. Only about a quarter of students gained both marks for part (c) with a further one tenth correctly choosing parallelogram from the list of shapes.

QUESTION 29

This question was well done for a question so late in the paper with over two thirds gaining all three marks. Those students who made a creditable start to the question invariably went on to get full marks.

QUESTION 30

Again this question was very well done with over two thirds of students gaining both marks and very few of those who attempted it failing to do so.

QUESTION 31

Only one third of students gained full marks on this question but a further fifth were able to gain one mark for the probability of picking a red at the first attempt.

QUESTION 32

Over two fifths of students gained full marks for this question and approximately a further fifth were able to gain one or two marks for correct or partially correct differentiation of the equation.

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