

Principal Examiner Feedback

November 2011

GCSE Mathematics (5383F)
Paper 09 (Calculator)

Edexcel is one of the leading examining and awarding bodies in the UK and throughout the world. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers.

Through a network of UK and overseas offices, Edexcel's centres receive the support they need to help them deliver their education and training programmes to learners.

For further information, please call our GCE line on 0844 576 0025, our GCSE team on 0844 576 0027, or visit our website at www.edexcel.com.

If you have any subject specific questions about the content of this Examiners' Report that require the help of a subject specialist, you may find our **Ask The Expert** email service helpful.

Ask The Expert can be accessed online at the following link:
<http://www.edexcel.com/Aboutus/contact-us/>

November 2011

Publications Code UG029737

All the material in this publication is copyright

© Pearson Education Ltd 2011

1. PRINCIPAL EXAMINER'S REPORT – FOUNDATION PAPER 09

1.1. GENERAL COMMENTS

- 1.1.1. Candidates appeared to be able to complete the paper in the allotted time.
- 1.1.2. Many candidates displayed their working as a series of numbers all over the page. This made it very difficult to work out what the candidate was doing. This was particularly noticeable on questions 4 and 10
- 1.1.3. Candidates were unfamiliar with providing geometric reasons for their answer to question 8
- 1.1.4. A poor understanding of directed numbers meant many candidates lost marks on questions 11 and 23
- 1.1.5. A significant number of marks were lost where candidates failed to show working and only wrote incorrect answers on the line.

1.2. REPORT ON INDIVIDUAL QUESTIONS

1.2.1. Question 1

Most candidates found this a good opening question with nearly 80% of candidates scoring the mark. Those that did not provide the correct answer tended to write 6.4

1.2.2. Question 2

Around $\frac{3}{4}$ of the candidates could work out the square of 5 although there were a number of students who provided the square root of 5. Centres are encouraged to practice questions where the instruction is in words eg square, square root, cube and cube root and not only where the instruction is in symbols eg $()^2$, $\sqrt{\quad}$, $()^3$, $\sqrt[3]{\quad}$.

27% of the students were unable to work out 2^3 with the most common incorrect response being 6. Some wrote $2 \times 2 \times 2 = 6$

1.2.3. Question 3

All students attempted this question with varying success. 70% of students could name the diameter and a few more could name the circumference. However naming the chord proved more challenging with only 44% of the candidates able to provide the correct answer. The most common incorrect response to this was 'segment'.

1.2.4. Question 4

It was often difficult to work out what students were doing as working was, on the whole, not clearly set out. 28% of candidates wrote the correct answer but the vast majority did not understand how to calculate the cost of the calculators when there was a 'buy 2 get the third free' offer. Most of the 45% of candidates who scored 1 mark merely found the difference between $30 \times \text{£}9.99$ and $30 \times \text{£}8.09$. 23% of candidates failed to score on this question. Poor calculator skills were much in evidence as well as interpretation of the calculator display. It was not uncommon to see $8.09 \times 30 = 242.07$ rather than $242.7(0)$. Where these errors were not preceded by working the candidate could not score method marks.

1.2.5. Question 5

59% of candidates could write the given fraction as a decimal. 0.7 was a common incorrect response to part (a).

In part (b) the success rate was a bit higher with 67% of candidates shading one square. Most of the candidates who failed to score shaded 2 squares.

1.2.6. Question 6

Only 57% of candidates scored in part (a) which was disappointing.

In part (b) 21% scored both marks with a further 31% scoring 1 mark for writing $2c$ or $-4d$ from valid working. Many students were unsure what to do with the $+$ and $-$, leaving the answer as $2c + -4d$.

1.2.7. Question 7

Most candidates had a go at this question. Of the 26% that did not score, most had no understanding of what was required and simply multiplied 1200 by 36. 47% of the students did understand what the question was asking but failed to understand that the answer of 33.333 needed to be rounded up to 34 or just wrote 33 as their answer.

Teachers are encouraged to put questions in real life contexts so that students are shown when it is a good idea to round up rather than to the nearest whole number.

1.2.8. Question 8

Many students used the 58° as part of their calculation. This led to the incorrect answer. 21% of candidates were able to work out that the angle was 76° .

Unfortunately nearly all candidates (98%) were not able to provide valid reasons for their answer. At least 2 reasons were required with at least one of these to do with parallel lines.

Many candidates drew Z and F on the diagram without it helping them to find the correct answer! There was a fair amount of measuring or estimating despite the question asking them to calculate and the diagram being labelled as not being accurately drawn.

1.2.9. Question 9

57% of candidates were successful in part (a).

In part (b), not many got the exact answer of 47. Those that did score both marks (37%) gave an answer in the range 45 – 49. Just over half the candidates failed to score. Many worked out the difference in temperature between 30 seconds and 65 seconds with 35 being a very common incorrect answer. Others attempted to use the graph (denoted by the markings on the graph), and then gave a random answer on the answer line. Candidates should be encouraged to do appropriate markings on the graph so that examiners can reward them for a valid method.

1.2.10. Question 10

Candidates struggled to work out John's speed with 63% failing to score. 30% of candidates scored a mark for providing an indication of the difference in time between 1 30 pm and 3 45 pm or working out the difference in time between 2 00pm and 3 45 pm. There was a poor understanding of decimal notation for time. 1.45×52 was a common incorrect method for John's speed. Students that got as far as working out Helen's distance had no secure method of applying any sort of inverse operation.

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>

Further copies of this publication are available from
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467

Fax 01623 450481

Email publication.orders@edexcel.com

Order Code UG029737 November 2011

For more information on Edexcel qualifications, please visit
www.edexcel.com/quals

Pearson Education Limited. Registered company number 872828
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual




Llywodraeth Cynulliad Cymru
Welsh Assembly Government

