edexcel

Mark Scheme (Results)

November 2011

GCSE Mathematics (2381)
Paper 5381H_6A (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 Mark Scheme 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 UG029732

NOTES ON MARKING PRINCIPLES

1 Types of mark

M marks: method marks
A marks: accuracy marks
B marks: unconditional accuracy marks (independent of M marks)

2 Abbreviations

cao – correct answer only
isw – ignore subsequent working
oe – or equivalent (and appropriate)
indep - independent
ft – follow through
SC: special case
dep – dependent

3 No working

If no working is shown then correct answers normally score full marks
If no working is shown then incorrect (even though nearly correct) answers score no marks.

4 With working

If there is a wrong answer indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.
If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.
If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks. Send the response to review, and discuss each of these situations with your Team Leader.
If there is no answer on the answer line then check the working for an obvious answer.
Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks. Discuss each of these situations with your Team Leader.
If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

5 Follow through marks

Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

6 Ignoring subsequent work

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: e.g. incorrect canceling of a fraction that would otherwise be correct
It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.
Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

7 Probability

Probability answers must be given a fractions, percentages or decimals. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).
Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.
If a probability answer is given on the answer line using both incorrect and correct notation, award the marks.
If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

8 Linear equations

Full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously indicated in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded.

9 Parts of questions

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

10 Money notation

Accepted with and without the “p” at the end.

11 Range of answers

Unless otherwise stated, when any answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and includes all numbers within the range (e.g 4, 4.1).

5381H_6A					
Question		**Working**	**Answer**	**Mark**	**Notes**
1		31.5 × 8 = 252 32 × 9 = 288 288 – "252" =	36	3	M1 for 31.5 × 8 or 252 seen or 32 × 9 or 288 seen M1 (dep) for '288' – '252' A1 cao
2	(a)		$10 < t \leq 20$	1	B1 for $10 < t \leq 20$ (accept 10 to 20 etc)
	(b)		Points (5, 9), (15, 8), (25, 3), (35, 6) and (45, 4) joined with line segments	2	B2 for complete polygon (ignore histograms and any lines below a time of 5 or above a time of 45, but award B1 only if there is a line joining the first to the last point) [B1 for: only one plotting error of the points and points joined with line segments or plotting all points correctly but not correctly joining with line segments (In this case ignore a line joining first to last point) or incorrect but consistent plotting of all points within each interval (not midpoints) and correctly joining the points with line segments. (In this case ignore a line joining first to last point) Plotting tolerance ± half square Points to be joined by straight lines but not curves. Accept ruled or hand-drawn lines

5381H_6A					
Question		**Working**	**Answer**	**Mark**	**Notes**
3	(a)		Cf graph	2	B2 for a fully correct cf graph (accept curve or line segments) [B1 for : 4 or 5 correctly plotted points or all points plotted consistently, within the interval, and a cf graph drawn through the points other than at the end of each interval] Plotting tolerance ± half square Part (b) can be followed through from any cf graph drawn in part (a)
	(b)(i)		41.5 – 44.5 (inc.)	4	B2 for an answer in the range 41.5 – 44.5 (inc.) if M0 not awarded OR M1 for a line drawn across at cf = 30 A1for answer in range 41.5 – 44.5 inc or ft from their cf graph
	(ii)		16 – 20		B2 for an answer in the range 16 – 20 OR M1 for a correct complete method to identify upper (52 – 54) and lower (34 – 36) quartiles A1 for an interquartile range in range 16 – 20 or ft from their cf graph

5381H_6A					
Question		**Working**	**Answer**	**Mark**	**Notes**
4		4 ÷ 10 = 0.4 12 ÷ 5 = 2.4 20 ÷ 5 = 4 16 ÷ 10 = 1.6 5 ÷ 20 = 0.25	Bars at, for example: 0.8cm, 4.8cm, 8cm, 3.2 cm and 0.5 cm in height oe with fd axis labelled correctly	3	M1 for 4 ÷ 10 (= 0.4) or 12 ÷ 5 (= 2.4) or 20 ÷ 5 (= 4) or 16 ÷ 10 (= 1.6) or 5 ÷ 20 (= 0.25) A1 for bars of consistent areas for **all** given frequencies B1 for fd axis labelled correctly and consistently OR M1 for 3 or more bars of consistent areas drawn A1 for bars of consistent areas for **all** given frequencies B1 for fd axis labelled correctly and consistently

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 UG029732 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

Rewarding Learning