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Edexcel

Mark Scheme (Results)

January 2023

Pearson Edexcel Awards

In Number and Measure (ANM20) Paper 2B

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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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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 cancelling 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 Parts of questions

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

8 Use of ranges for answers

If an answer is within a range this is inclusive, unless otherwise stated.

Question	Working	Answer	Mark	Notes
1		-6,-4,-3,-1 1,2,5,7	1	B1 cao
2 (a)	$\begin{array}{r} \underline{\quad 3\ 6\ 0} \\ 35\)\ 1\ 2\ 6\ 2\ 1\ 0\ 0 \\ \underline{1\ 0\ 5} \\ 2\ 1 \end{array}$	360	2	M1 for demonstration of overall division method eg sight of 3 and remainder of 21 “carried” or taken down for subtraction, or any alternative start to the process; could be awarded for multiple addition methods if complete A1 cao
(b)	$\begin{array}{r} 239090.10 \\ \underline{-\ 57.6} \end{array}$	2942.4	2	M1 (dep on correct place value for subtracting the .6) for attempting to decompose the 3000 or for 4 seen in the tenths column of the answer or for a 5-digit answer xxxx.x with one digit incorrect A1 cao
3		3 : 8	2	M1 for 24 : 64 oe or 12 : 32 oe or any other equivalent ratio; award this mark (if correct working shown) even if incorrect simplifying is also shown. Award also for 8 : 3 given as a final answer A1 cao
4		$\frac{10}{77}$	1	B1 for $\frac{10}{77}$ or for any equivalent fraction NB: do not isw incorrect cancelling
5		71.99	1	B1 cao

Question	Working	Answer	Mark	Notes
6		16, 24	2	M1 for a first step eg $40 \div (2 + 3)$ (=8) oe or for three other ratios which are multiples of 2 : 3 A1 for 16 and 24 in either order
7		$\frac{1}{7}$ of 105	3	M1 for $105 \div 7$ (=15) or for $21 \div 3 \times 2$ (=14) oe A1 for 15 and 14 A1 ft (dep on M1 and on two figures shown) for conclusion eg “ $\frac{1}{7}$ of 105”
		$\frac{2}{5}$	2	M1 for $\frac{80}{200}$ or any equivalent fraction to this; award this mark (if correct working shown) even if incorrect cancelling is also shown A1 cao
8		560	3	M1 for $630 \div 9$ (=70) or 630×8 (=5040) M1 for “70” $\times 8$ or “5040” $\div 9$ or $630 - “70”$ A1 cao

Question	Working	Answer	Mark	Notes
9		102	3	<p>M1 for 20% of 85 eg $\frac{20}{100} \times 85 (=17)$ oe or $85 \div 5$ oe or 10% as 8.5 and 20% as $2 \times "8.5"$ or any alternative partitioning method</p> <p>M1 for $85 + "17"$ or for 85×1.2 oe</p> <p>A1 cao</p>
10	$\frac{20 \times 31}{0.5} = \frac{620}{0.5}$ $\frac{20 \times 30}{0.5} = \frac{600}{0.5}$ $\frac{19 \times 30}{0.5} = \frac{570}{0.5}$	1140 to 1240	3	<p>M1 for rounding at least two figures to 19, 20, 30, 31 or 0.5 (which could be evidenced through partial calculation)</p> <p>M1 for rounding and one operation using figures that simplify the calculation eg sight of 38, 40, 60, 62, 600, 570, 620,</p> <p>A1 (dep on M2) for answer in the range 1140 to 1240</p>
11	(a)	$1\frac{11}{16}$	2	<p>M1 for use of a common denominator with at least one correct numerator eg $\frac{6}{16} + \frac{5}{16}$ or $\frac{48}{128} + \frac{40}{128}$ or $\frac{176}{128} + \frac{47}{128}$ or $\frac{11}{8} + \frac{5}{16} = \frac{22}{16} + \frac{5}{16}$ oe</p> <p>A1 for $1\frac{11}{16}$ or $\frac{27}{16}$ or $\frac{216}{128}$ oe</p>
	(b)	$3\frac{17}{21}$	3	<p>M1 for writing both fractions as improper fractions eg $\frac{10}{3} \times \frac{8}{7}$ oe</p> <p>M1 for multiplying eg $\frac{80}{21}$ oe</p> <p>A1 cao</p>

