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Mark Scheme (Results)

January 2014

Pearson Edexcel Level 2 Award
In Number and Measure (ANM20)
Paper 2A+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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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.

Section A

PAPER: ANM20_2A					
Question		**Working**	**Answer**	**Mark**	**Notes**
1	(a)		2.6	1	B1 cao
	(b)		12.5	1	B1 for 12.5 or any decimal more than 12 and less than 13
2			503.2	1	B1 cao
3			56 : 70	3	M1 for 126 ÷ 9 or 14 or at least five multiples of 4:5 (including 4:5) M1 for 126 ×4÷9 and 126 ×5÷9 or sight of both 56 and 70 (in either order) or 56 : 70 incorrectly expressed (eg 70 : 56; 56,70 etc) A1 cao
4			531	3	M1 for 450 × 0.18 oe or 81 seen M1 for 450 × 1.18 or 450 + "81" oe A1 cao
5			120	3	M1 for listing at least 3 multiples of one number (eg 24, 48, 72, … or 30, 60, 90 or for factor trees showing at least two factors of both (eg 2,2,2,3 and 2,3,5) or one complete factor tree or all factors shown as products for just one M1 for listing at least 3 multiples of each (eg 24, 48, 72, … and 30, 60, 90) or for factor trees showing all factors of both (eg 2,2,2,3 and 2,3,5) or all factors shown as products for both A1 cao

PAPER: ANM20_2A					
Question		**Working**	**Answer**	**Mark**	**Notes**
6	(a)		2.3	1	B1 cao
	(b)		57.98	1	B1 cao
	(c)		3125	1	B1 cao
	(d)		12	2	M1 for √(225-81) or √144 A1 cao
7			44	3	M1 for 2×π×7 or 14×π or 2×7 oe M1 for 2×3.14×7 or otherwise correct substitution A1 43.7 – 44.0
8			£85	2	M1 for 123.25 ÷ 1.45 A1 cao
9			3 : 5	2	M1 for 9 : 15 or 3 : 5 incorrectly expressed (eg 5 : 3; 3,5 etc) A1 cao
10			681	3	M1 for 600×4.5÷100 or 27 seen M1 for 600×4.5×3 or 600×4.5×3÷100 oe or "27"×3 or 81 seen A1 cao
11			£95.30	4	M1 for 3.5(0)×24 or 2.7(0)×13 or 84 or 35.1(0) M1 for 3.5(0)×24 and 2.7(0)×13 or 84 and 35.1(0) or 119.1(0) M1 for "119.1(0)" – 23.8(0) or answer of 95.3 A1 cao

PAPER: ANM20_2A					
Question		**Working**	**Answer**	**Mark**	**Notes**
12			42	3	M1 for 3×4÷2 or 6 or 3×4×7or 84 M1 for "6"×7 or 3×4×7÷2 A1 cao
13			Completed Pie chart: 156° 120° 84°	4	M1 for $\frac{260}{600}\times360$ or $\frac{200}{600}\times360$ or $\frac{140}{600}\times360$ or 156 or 120 or 84 A1 for at least one angle drawn accurately (±2°) or all angles calculated A1 for all angles drawn accurately (±2°) A1 (dep on M1) labels (not angles) or key
14			$\frac{132}{55}$ or $2\frac{2}{5}$ or 2.4	2	M1 for correctly writing fractions as improper fractions eg $\frac{33}{5}\div\frac{11}{4}$ or $\frac{33}{5}\times\frac{4}{11}$ or correct conversion into decimals with correct operation shown eg 6.6÷2.75 A1 $\frac{132}{55}$ or $2\frac{2}{5}$ or 2.4 oe
15			240	4	M1 for finding the area of one rectangle eg 18×8 (=144), 24×16 (=384) oe M1 for finding the area of both rectangles M1 for subtraction A1 cao OR M1 for correct division into rectangles M1 for correctly stating the dimensions of those rectangles M1 for addition of a complete set of rectangles A1 cao

PAPER: ANM20_2A					
Question		**Working**	**Answer**	**Mark**	**Notes**
16			45	3	M1 for 58 – 40 (=18) or $\frac{58}{40}$ M1 for $\frac{"18"}{40}\times 100$ or sight of 1.45 A1 cao
17			75 – 75.5	3	M1 recall of formulae eg $\pi\times r^2\times h$ oe (could be implied) M1 for correct substitution eg $\pi\times 2^2\times 6$ or $\pi\times 4\times 6$ or 24π oe A1 75-75.5

Section B

PAPER: ANM20_2B					
Question		**Working**	**Answer**	**Mark**	**Notes**
1	(a)		-5, -4, -3, 1, 2, 3	1	B1 cao
	(b)		227.48	2	M1 for correct alignment of digits ready for calculation or at least two operations performed correctly eg 256.35-28.87 shown or sight of 285.22 A1 cao
	(c)		763	2	M1 for evidence of correctly set up method eg borrowing across 3 columns or decomposition etc. A1 cao
2	(a)		-6	1	B1 cao
	(b)		4	1	B1 for (+)4
3	(a)		$\frac{3}{4}$ of 84	3	M1 for 84×3÷4 oe or 90×2÷3 oe or 63 or 60 A1 for 63 and 60 A1 for conclusion: "3/4 of 84"
	(b)		$\frac{4}{5}$	2	M1 for $\frac{40}{50}$ oe or 0.8 oe A1 cao
4			£1.40	3	M1 for ÷9 or × 7 or 0.2(0) or 20 or 12.6 or 126(0) oe M1 for ÷9 and ×7 oe A1 cao

PAPER: ANM20_2B

Question		Working	Answer	Mark	Notes
5	(a)		88.8	3	M1 for a complete method with relative place value correct. Condone 1 multiplication error, addition not necessary. M1 (dep) for addition of all the appropriate elements of the calculation. A1 cao 37 ×24 = 168 + 720 = 888 24 ×37 = 720 + 168 = 888 M1 for a complete grid with not more than 1 multiplication error, addition not necessary. M1 (dep) for addition of all the appropriate elements of the calculation. A1 cao 2 4 0/6 1/2 3 8 1/4 2/8 7 8 8 20 4 600 120 30 140 28 7 600+120+140+28=888 M1 for sight of a complete partitioning method, condone 1 multiplication error, addition not necessary. M1 (dep) for addition of all the appropriate elements of the calculation. A1 cao

PAPER: ANM20_2B					
Question		**Working**	**Answer**	**Mark**	**Notes**
5	(b)		5.42	2	M1 for an attempt to divide by 7 as evidenced by remainder of 2 eg 5. 4 2 7) 3 7.^{2}9^{1}4 or at least 5 multiples of 7 with correct multipliers A1 cao
6			480	3	M1 for rounding at least two figures eg two of 6, 40, 0.5 M1 for rounding and one operation eg 12, 80, 240, 468 A1 any number 460-480
7			37.5	2	M1 for ÷8 or ×5 A1 cao
8	(a)		$3\frac{5}{12}$	3	M1 for use of a common denominator with at least one correct numerator eg $\frac{2}{3}-\frac{1}{4}=\frac{8}{12}-\frac{3}{12}$; $\frac{80}{12}-\frac{39}{12}=\frac{41}{12}$ oe M1 correctly stated equivalent fractions subtracted A1 cao
	(b)		$\frac{27}{35}$	2	M1 attempt to write as vulgar fractions $\frac{9}{7}\times\frac{3}{5}$ oe A1 cao

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