Mark Scheme (Results)

Summer 2015

Pearson Edexcel Level 2 Award
in Number and Measure (ANM20)
Paper 2A + 2B

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Contents

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

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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

PAPER: ANM20_2A					
Question		Working	Answer	Mark	Notes
1	(a)		3.8	1	B1 cao
	(b)		4.4	1	B1 cao
2	(a)		21.43	2	M1 for 21.428(571…) or 21.42 A1 for 21.43
	(b)		19.988	1	B1 cao
3	(a)		4489	1	B1 cao
	(b)		13	1	B1 cao
	(c)		144	2	M1 for 16 or 9 A1 cao
4			8	2	M1 for $24 \div 3$ or $24 \times \frac{1}{3}$ oe A1 cao
5	(a)		−42	1	B1 cao
	(b)		2	1	B1 2 or + 2
6			320	2	M1 for $896 \div 2.8\,(0)$ A1 cao

PAPER: ANM20_2A					
Question		Working	Answer	Mark	Notes
7			32	2	M1 for 400 × 0.08 oe A1 cao
8			14.4	2	M1 for 4 × 1. 5 × 2.4 A1 cao
9	(a)		36	2	M1 for 9 + 12 + 15 A1 cao
	(b)		54	2	M1 for 9 × 12 ÷ 2 oe A1 cao
10			240	3	M1 for 2000 × 4 ÷ 100 (=80) M1 for 2000 × 4 × 3 (=24000) or 2000 × 4 × 3 ÷ 100 oe or "80" × 3 or 2240 or 1760 A1 cao
11			3.5	2	M1 for 7.7 ÷ 2.2 A1 cao
12			201	3	M2 for $\pi \times 8^2$ or $\pi \times 64$ (M1 for $\pi \times r^2$ oe or $\pi \times 16^2$ or $\pi \times 256$ (=800-810)) A1 for 200 - 202

PAPER: ANM20_2A				
Question		**Working**	**Answer**	**Mark**	**Notes**

Question		Working	Answer	Mark	Notes
13			$\dfrac{45}{16}$	2	M1 for correctly writing fractions as improper fractions eg $\dfrac{27}{4} \div \dfrac{12}{5}$ or $\dfrac{27}{4} \times \dfrac{5}{12}$ or correct conversion into decimals with correct operation shown eg 6.75÷2.4 A1 $\dfrac{45}{16}$ or $2\dfrac{13}{16}$ or 2.8125 oe
14	(i)		12	4	M1 for intention to divide the face into rectangles M1 for a complete method to find the area of the face (eg 4 × 2 + 2 × 2) A1 cao for 12
	(ii)		60		B1 for 60 or ft 5 × "12"
15			12	3	M1 for an attempt to find the factors of 48 (at least 5 of 1,2,3,4,6,8,12,16,24,48) or 60 (at least 5 of 1,2,3,4,5,6,10,12,15,20,30,60) or for showing one complete prime factor tree leading to 2×2×2×2×3 or 2×2×3×5 M1 for an attempt to find the factors of 48 (at least 5 of 1,2,4,6,8,12,24,48) AND 60 (at least 5 of 1,2,3,4,5,6,10,12,15,20,30,60) OR for showing two complete prime factor trees leading to 2×2×2×2×3 or 2×2×3×5 A1 cao
16			283.75	4	M1 for 9.8(0) × 28 (=274.4(0)) M1 for (35-28) × 1.5 × 9.8 or 7 × 14.7 (=102.9) or 7 × 1.5 × 9.8 M1 for complete method (35-28) × 1.5 × 9.8 + 9.8(0) × 28 -75.45 - 18.1(0) or for 102.9 + 274.4(0) – 75.45 – 18.1(0) A1 cao

PAPER: ANM20_2A				
Question	Working	Answer	Mark	Notes
17		30	3	M1 for 240 – 168 (=72) or $\dfrac{72}{240}$ or $\dfrac{168}{240}$ M1 for $\dfrac{"72"}{240} \times 100$ or sight of 0.7 or $\dfrac{7}{10}$ or 70% A1 cao
18		351.5 – 352	3	M1 recall of formulae eg $\pi \times r^2 \times h$ oe (could be implied) M1 for correct substitution eg $\pi \times 4^2 \times 7$ or $\pi \times 16 \times 7$ or 112π oe A1 351.5 – 352

PAPER: ANM20_2B					
Question		Working	Answer	Mark	Notes
1			-4,-3,-2, -1,2,4,5	1	B1 cao
2	(a)		9.418	2	M1 for correct alignment of digits ready for calculation with two operations performed correctly eg 9.42 - 0.002 shown A1 cao
	(b)		92.46	2	M1 for evidence of correctly set up method eg carry 2 from 4 × 6 A1 cao
3			£3	3	M1 for ÷8 or × 5 or 0.6(0) or 24 oe M1 for ÷8 and × 5 oe A1 cao
4			6 : 5	2	M1 for 24 : 20 or 5 : 6 A1 cao
5	(a)		$\dfrac{3}{8}$	2	M1 for use of a common denominator with at least one correct numerator eg $\dfrac{5}{8}-\dfrac{1}{4}=\dfrac{5}{8}-\dfrac{2}{8}$ oe A1 oe eg $\dfrac{12}{32}$
	(b)		$\dfrac{2}{20}$	1	B1 for $\dfrac{2}{20}$ or $\dfrac{1}{10}$ oe

Question		Working	Answer	Mark	Notes
6			80	2	M1 for $\dfrac{120}{150}$ (=0.8) oe A1 cao
7	(a)		$\dfrac{1}{5}$ of 65	3	M1 for 72 ÷ 6 (=12) oe or 65 ÷ 5 (=13) oe A1 for 12 and 13 A1 for conclusion: " $\dfrac{1}{5}$ of 65" with 12 and 13
	(b)		$\dfrac{41}{84}$	1	B1 oe
8			1600	3	M1 for rounding at least two figures eg two of 20/21, 40, 0.5 M1 for rounding and one operation eg 40, 80, 800, 840 A1 any number 1580-1680
9			20, 50	2	M1 for 70 ÷ 7 (=10) A1 cao
10			600	3	M1 for 500 × 0.2 (=100) M1 for 500 + "100" oe A1 cao

PAPER: ANM20_2B				
Question	Working	Answer	Mark	Notes
11		$5\dfrac{9}{20}$	3	M1 for use of a common denominator with at least one correct numerator eg $\dfrac{1}{4}+\dfrac{1}{5}=\dfrac{5}{20}+\dfrac{4}{20}$; $\dfrac{45}{20}+\dfrac{64}{20}$ oe M1 correctly stated equivalent fractions added or correct answer not simplified eg $\dfrac{109}{20}$ A1 cao