Mark Scheme (Results)

Summer 2017

Pearson Edexcel Level 2 Award
In Number and Measure (ANM10)
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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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)		3.3	1	B1 cao
	(b)		2.24	1	B1 cao
2	(a)		40	1	B1 cao accept +40
	(b)		−11	1	B1 cao
3	(a)		47.22	2	M1 for 47.22(2222…..) or 47.23 or 47.20 A1 cao
	(b)		15.435	1	A1 cao
4			104.4	2	M1 for 18 × 5.8 A1 cao
5			37.5	2	M1 for 625 × 0.06 oe or 662.5 or 663 or 662 or 587.5 or 587 or 588 A1 cao

PAPER: ANM20/2A				
Question	**Working**	**Answer**	**Mark**	**Notes**
6 (a)		6084	1	B1 cao
(b)		18	1	B1 cao
(c)		648	2	M1 for 8 or 81 seen in working unambiguously A1 cao
7		80	2	M1 for 1408 ÷ 17.6 A1 cao
8		$\frac{35}{56}$	2	M1 for correctly writing fractions as improper fractions eg $\frac{7}{4} \div \frac{14}{5}$ or $\frac{7}{4} \times \frac{5}{14}$ or correct conversion into decimals with correct operation shown eg 1.75÷2.8 A1 $\frac{35}{56}$oe or $\frac{5}{8}$ or 0.625
9		14.76	2	M1 4.5 × 3.28 oe A1 cao
10		216	2	M1 for 24 × 18 ÷ 2 oe A1 cao

PAPER: ANM20/2A				
Question	**Working**	**Answer**	**Mark**	**Notes**
11		Completed Pie chart: 195° 105° 60°	4	M1 for $\frac{260}{"480"}\times 360$ (=195) or $\frac{140}{"480"}\times 360$ (=105) or $\frac{80}{"480"}\times 360$ (=60) A1 for at least one angle drawn accurately (±2°) or all angles calculated A1 for all angles drawn accurately (±2°) A1 (dep on M1 & 3 sectors) method of travel as labels or key
12		301.92	4	M1 for 28 × 12 (=336) or 4 × 12 × 1.5 (=72) or 32 × 12 (=384) M1 for (28 × 12) + (4 × 12 × 1.5) oe or (28+6) × 12 oe (=408) or "384" + 4×6 M1 for subtraction of 81.6 and 24.48 (or 106.08) A1 cao
13		20	3	M1 for an attempt to find the factors of 40 (at least 4 of 1, 2, 4, 5, 8, 10, 20, 40) or 140 (at least 5 of 1, 2, 4, 5, 7, 10, 14, 20, 28, 35, 70, 140) or for showing one complete prime factor tree or 2×2×2×5 or 2×2×5×7 M1 for showing at least one common factor (1, 2, 4, 5, 10, 20) in both lists or for showing two complete prime factor trees OR 2×2×2×5 and 2×2×5×7 A1 cao
14		23.1 – 23.2	3	M1 for 2 × π × 4.5 (=28.2-28.3) or 2 × π × 9 (=56.5-56.6) A1 for 14.1 – 14.2 B1 (ft) for "14.1 – 14.2" + 9 (= 23.1 – 23.2)
15		600	3	M1 for 5000 × 3 ÷ 100 (=150) oe or 5000 × 0.04 (=200) or 5200 M1 for 5000 × 0.04 × 3 (=600) or 5600 oe A1 cao

PAPER: ANM20/2A				
Question	**Working**	**Answer**	**Mark**	**Notes**
16 (i)		41	4	M1 for division of the shape into rectangles which could then be added (or completes to give two rectangles which could then be subtracted) M1 for a complete method to find the area of the face eg 9×3 (=27) + 2×7 (=14) or (9×5)−(2×2) A1 cao for 41
(ii)		410		B1 for 410 or ft 10 × "41"
17		35	3	M1 for 864 – 640 (=224) or $\frac{864}{640}$ or sight of digits 135 or 224 M1 for $\frac{"224"}{640}\times 100$ or sight of 0.35 or 1.35 A1 cao
18		338.4 – 339.5	3	M1 for $\pi \times 3^2$ (=28.2 – 28.3) or $\pi \times r^2 \times h$ M1 for $\pi \times 3^2 \times 12$ A1 for 338.4 – 339.5

Section B

PAPER: ANM20/2B				
Question	**Working**	**Answer**	**Mark**	**Notes**
1		-6,-5,-4, -1,3,5,7	1	B1 cao
2		13	3	M1 for ÷7 or × 20 or digit 65 or digits 9100 or ×13 or digits 5915 M1 for ÷7 and ×20 oe **or** ÷7 and ×13 with +5915 oe A1 cao
3		4 : 3	2	M1 for 360 : 270 oe or 3 : 4 or 4 and 3 shown unambiguously in working A1 for 4 : 3
4 (a)		395.29	2	M1 for correct alignment of digits ready for calculation with two operations performed correctly eg 413.23−17.94 A1 cao
(b)		283.36	2	M1 for evidence of correctly set up method eg carry 1 from 2×8 A1 cao
5		40	2	M1 for $\frac{160}{400}$ (=0.4) A1 cao

PAPER: ANM20/2B				
Question	**Working**	**Answer**	**Mark**	**Notes**
6		5600 or 5880	3	M1 for rounding at least two figures eg two of 70, 0.5, 40 or 42 (which could be evidenced through partial calculation) M1 for rounding and one operation eg sight of 2800, 2940, 560, 140, 80, 84 A1 for 5600 or 5880
7 (a)		$\frac{5}{8}$	2	M1 for use of a common denominator with at least one correct numerator eg $\frac{3}{8}+\frac{2}{8}$ or or $\frac{12}{32}+\frac{8}{32}$ oe A1 $\frac{5}{8}$ oe
(b)		$\frac{9}{35}$	1	B1 for $\frac{9}{35}$ oe
8		46 , 69	2	M1 for 115 ÷ 5 or at least three multiples of 2 : 3 A1 cao accept either order
9		180	3	M1 for 20% of 150 eg 150 × 0.20 or 150 ÷ 5 oe (=30) M1 for increasing 150 by 20% eg 150 + "30" or 150 × 1.20 oe A1 cao

PAPER: ANM20/2B				
Question	**Working**	**Answer**	**Mark**	**Notes**
10 (a)		$\frac{1}{4}$ of 140	3	M1 for 51×2÷3 (=34) oe or 140÷4 (=35) oe A1 for 34 and 35 A1 ft for conclusion: "$\frac{1}{4}$ of 140" with two figures shown for comparison
(b)		$\frac{22}{45}$	1	B1 $\frac{22}{45}$ oe
11		$1\frac{7}{20}$	3	M1 for use of a common denominator with at least one correct numerator eg $\frac{12}{20}-\frac{5}{20}$ or $\frac{52}{20}-\frac{25}{20}$ M1 (dep but ft) for subtraction done correctly eg $\frac{7}{20}$ or $\frac{27}{20}$ A1 cao