Mark Scheme (Results)

Summer 2022

Pearson Edexcel Level 2 Award
In Number and Measure (ANM20)
Paper 2A

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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

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Question	**Working**	**Answer**	**Mark**	**Notes**
1 (a)		22.3	1	B1 cao
(b)		33.8	1	B1 cao
2 (a)		–3	1	B1 cao
(b)		(+) 2	1	B1 cao
(c)		–12	1	B1 cao
3 (a)		24	1	B1 cao
(b)		2197	1	B1 cao
(c)		512	2	M1 for 32 or for 16 or 2^9 A1 cao
4		42.65	2	M1 for 5971 ÷ 140 A1 cao
5		882	2	M1 for a method to calculate 21% of 4200 either directly or by partitioning eg 4200 × 0.21 oe or 10% as 420 **and** 1% as 42 with 420+420+42 (oe) **or** any equivalent method **or** 882 seen, then used as part of an extended method eg 5082 or 3318 A1 cao

PAPER: ANM20/2A				
Question	**Working**	**Answer**	**Mark**	**Notes**
6		15 cm	2 1	M1 for 720 ÷ (6 × 8) oe A1 cao B1 (indep) for cm
7		234	2	M1 for 65 + 97 + 72 A1 cao
8		335.039	1	B1 cao
9		816	4	M1 for 28 × 18.5 (=518) **or** 16 × 30.5 (=488) M1 for 28 × 18.5 (=518) **and** 16 × 30.5 (=488) M1 for complete method of "518" + "488" – 190 A1 cao
10		193.6	2	M1 for 88 × 2.2 oe A1 cao

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Question	**Working**	**Answer**	**Mark**	**Notes**
11		$2\frac{1}{2}$	2	M1 for correctly writing fractions as improper fractions eg $\frac{11}{2} \div \frac{11}{5}$ or $\frac{11}{2} \times \frac{5}{11}$ or 5.5 ÷ 2.2 A1 for $\frac{55}{22}$ or $2\frac{11}{22}$ or $\frac{5}{2}$ or $2\frac{1}{2}$ or 2.5 oe
12	25=5×5 80=2×2×2×2×5 LCM= 25×80÷5	400	3	M1 for listing at least 3 multiples of one number (eg 25, 50, 75, 100, 125… or 80, 160, 240, 320, 400 …) Could be shown in a Venn diagram. M1 for listing at least 3 multiples of each A1 cao M1 for factor trees showing at least two prime factors of both or one complete factor tree for 25 or 80 M1 for two complete factor trees for 25 and 80 or showing 5,5 and 2,2,2,2,5 or for 25×80÷5
13		180	3	M1 for 4000 × 3 ÷ 100 oe (=120) or 4120 or 4000 × 1.5 ÷ 100 oe (=60) or 3 × 1.5 ÷ 100 (=0.045) or 4060 M1 for 4000 × 3 × 0.015 oe or 4180 or 3820 A1 cao
14		41.1 to 41.2	3	M1 for $2\pi r$ or πd or 2 × π × 8 or π × 16 (=50.2 to 50.3) or π × 8 (=25.1 to 25.2) A1 for 25.1 to 25.2 A1 ft for answer in the range 41.1 to 41.2 **or** "25.1" to "25.2" + (8×2)

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Question	**Working**	**Answer**	**Mark**	**Notes**
15		16	3	M1 for 23896 – 20600 (=3296) or digits 3296 or $\frac{23896}{20600}$ (=1.16) M1 for $\frac{"3296"}{20600}\times 100$ or "1.16" – 1 or sight of 0.16 A1 cao
16		81	3	M1 for evidence of apples × boxes eg 2 × 16, 3 × 8, 4 × 5, 5 × 1 M1 for evidence of summing apples × boxes eg 32 + 24 + 20 + 5 A1 cao
17		71.7 to 71.8	4	M1 for 10 × 10 (= 100) M1 for $\pi \times 3^2$ (=28.274…) M1 for "100" $- \pi \times 3^2$ A1 for answer in the range 71.7 to 71.8

PAPER: ANM20/2A				
Question	**Working**	**Answer**	**Mark**	**Notes**
18 (i)		40	4	M1 for division of the shape into at least one rectangle and at least one triangle (or complete to give a rectangle by showing added triangle). Could be implied by one area shown (eg 20) but not 5 × 12 alone. M1 for a complete method by dividing up eg 4 × 5 + ½ × 5 × 8 or 20 + 20 or a complete method by subtraction eg 5 × 12 – ½ × 5 × 8 or 60 – 20 A1 for (area of shaded face =) 40
(ii)		360		B1 for 360 or ft 9 × "40"

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