

Mark Scheme (Results)

January 2016

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

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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

Guidance on the use of codes within this mark scheme

M1 – method mark

A1 – accuracy mark

B1 – Working mark

oe – or equivalent

cao – correct answer only

ft – follow through

sc – special case

dep – dependent (on a previous mark or conclusion)

indep – independent

isw – ignore subsequent working

Section A

PAPER ANM20/2A					
Question		Working	Answer	Mark	Notes
1	(a)		6.3	1	B1 cao
	(b)		11.7	1	B1 cao
2	(a)		28	1	B1 cao accept +28
	(b)		-15	1	B1 cao
3	(a)		34.29	2	M1 for 34.28(571...) A1 cao
	(b)		9.288	1	B1 cao
4			27.2	2	M1 for $5 \times 3.4 \times 1.6$ A1 cao
5			42	2	M1 for 600×0.07 oe A1 cao

PAPER ANM20/2A					
Question		Working	Answer	Mark	Notes
6	(a)		110592	1	B1 cao
	(b)		15	1	B1 cao
	(c)		288	2	M1 for 32 or 9 A1 cao
7			60	2	M1 for $372 \div 6.2(0)$ A1 cao
8			$\frac{96}{75}$ or $1\frac{7}{25}$ or 1.28	2	M1 for correctly writing fractions as improper fractions eg $\frac{24}{5} \div \frac{15}{4}$ or $\frac{24}{5} \times \frac{4}{15}$ or correct conversion into decimals with correct operation shown eg $4.8 \div 3.75$ A1 $\frac{96}{75}$ or $1\frac{7}{25}$ or 1.28 oe eg $\frac{32}{25}$, $1\frac{21}{75}$
9			24.75	2	M1 for 5.5×4.5 oe A1 cao
10			35	2	M1 for $12 + 9 + 14$ A1 cao

PAPER ANM20/2A				
Question	Working	Answer	Mark	Notes
11		Completed Pie chart: 160° 128° 72°	4	M1 for $\frac{120}{270} \times 360 (=160)$ or $\frac{96}{270} \times 360 (=128)$ or $\frac{54}{270} \times 360 (=72)$ A1 for at least one angle drawn accurately ($\pm 2^\circ$) or all angles calculated A1 for all angles drawn accurately ($\pm 2^\circ$) A1 (dep on M1) labels (not angles) or key
12		324.55	4	M1 for use of a pay rate eg $12.6 \times 26 (=327.60)$ or $(30-26) \times 2 \times 12.6 (=100.8)$ M1 for complete method to find wage: eg $12.6 \times 26 (=327.60)$ and $(30-26) \times 2 \times 26 (=100.8)$ or $34 \times 12.6 (=428.40)$ oe M1 for deductions eg “428.40” – 82.5 – 21.35 or “428.40” – 103.85 A1 cao
13		12	3	M1 for an attempt to find the factors of 24 (at least 4 of 1, 2, 3, 4, 6, 8, 12, 24) or 84 (at least 5 of 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84) or for showing one complete prime factor tree leading to 2,2,3,2 or 2,2,3,7 M1 for showing at least one common factor (1, 2, 3, 4, 6, 12) in both lists or for showing two complete prime factor tree leading to 2,2,3,2 or 2,2,3,7 A1 cao
14		50.2 – 50.3	3	M1 for $2 \times \pi \times 8$ or $16 \times \pi$ or statement $2 \times \pi \times r$, $\pi \times d$ oe M1 for $2 \times 3.142 \times 8$ or otherwise correct substitution A1 for 50.2 – 50.3
15		240	3	M1 for $3000 \times 2 \div 100 (=60)$ M1 for $3000 \times 2 \times 4 (=24000)$ oe or “60” $\times 4$ or complete method shown or 2760 or 3240 A1 cao

PAPER ANM20/2A					
Question		Working	Answer	Mark	Notes
16			27 243	4	M1 for division of the face into rectangles. M1 for a complete method to find the area of the face (eg $3 \times 2 + 7 \times 3$ or $6+21$ or $3 \times 2 + 3 \times 5 + 3 \times 2$ or $6+15+6$) using correct dimensions A1 for 27 B1 ft for “27” $\times 9$ where “27” is from an area calculation
17			15	3	M1 for $966 - 840 (=126)$ or $\frac{126}{840}$ or 126 seen as part of a calculation or $966/840$ M1 for $\frac{126}{840} \times 100$ oe or sight of 1.15 A1 cao
18			706.5 – 707.2	3	M1 for $\pi \times 5^2$ or $\pi \times 5 \times 9$ or $\pi r^2 h$ M1 for $\pi \times 5^2 \times 9$ oe A1 706.5 – 707.2

Section B

PAPER ANM20/2B					
Question		Working	Answer	Mark	Notes
1			-6, -4, -3, -1, 4, 6, 8	1	B1 cao
2			12.75	3	M1 for $\div 6$ ($=0.85$) or $\times 15$ ($=30.6$) M1 for $\div 6$ and $\times 15$ oe or $\div 6 \times 9$ ($=765$) and “765”+5.10 A1 cao Or M2 for a complete alternative method shown A1 cao
3			7 : 3	2	M1 for 420 : 180 oe (eg 210:90, 140:60, 70:30) or 3:7 or 7 and 3 A1 cao
4	(a)		287.09	2	M1 for correct alignment of digits ready for calculation with two operations performed correctly eg 329.44 – 42.35 A1 cao
	(b)		149.59	2	M1 for evidence of correctly set up method eg carry 4 from 7×7 A1 cao
5	(a)		$\frac{1}{8}$ of 112	3	M1 for $84 \div 7$ ($=12$) oe or $112 \div 8$ ($=14$) A1 for 12 and 14 A1 ft for conclusion “1/8 of 112” supported with “12” and “14”
	(b)		$\frac{17}{30}$	1	B1 cao

PAPER ANM20/2B					
Question		Working	Answer	Mark	Notes
6	(a)		2300 - 2500	3	M1 for rounding at least two figures eg two of 30, 40, 0.5 M1 for rounding and one operation eg 60, 62, 80, 1200, 1240, 1170 A1 any number 2300 – 2500
7	(a)		$\frac{5}{8}$	2	M1 for use of a common denominator with at least one correct numerator eg $\frac{3}{8} + \frac{1}{4} = \frac{3}{8} + \frac{2}{8} = \frac{5}{8}$; $\frac{12}{32} + \frac{8}{32} = \frac{20}{32}$ oe A1 oe eg $\frac{20}{32}$
	(b)		$\frac{9}{35}$	1	B1 oe
8			63 , 105	2	M1 for $168 \div 8 (=21)$ or at least 3 equivalent ratios to 3:5 shown A1 cao accept either order
9			540	3	M1 for 450×0.2 or $450 \div 5 (=90)$ oe or 360 M1 for $450 + "90"$ or 450×1.2 oe A1 cao
10			30	2	M1 for $\frac{120}{400}$ or $120 \div 4$ A1 cao
11			$4\frac{11}{20}$	3	M1 for use of a common denominator with at least one correct numerator eg $\frac{16}{20} - \frac{5}{20}$ or $\frac{34}{5} - \frac{9}{4} = \frac{136}{20} - \frac{45}{20}$ A1 for subtraction of fractions eg $\frac{11}{20}$ or $\frac{91}{20}$ A1 cao

