



**Pearson
Edexcel**

Mark Scheme (Results)

Summer 2018

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

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Summer 2018

Publications Code ANM20_2A_1806_MS

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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

Section A

PAPER: ANM20/2A					
Question		Working	Answer	Mark	Notes
1	(i)		6.7	1	B1 cao
	(ii)		4.4	1	B1 cao
2	(a)		91 125	1	B1 cao
	(b)		5	2	M1 for 169 or 144 shown unambiguously in working A1 cao
3	(a)		-7	1	B1 cao
	(b)		-2	1	B1 cao
4	(a)		283.475	1	B1 cao
	(b)		47p	2	M1 for $3.75 \div 8$ or $375 \div 8$ or 0.46875 or 46.875 or 0.46 or 46 or 0.47 or 47 A1 for 47p or £0.47
5			peas 6 broccoli 9	3	M1 for $60 \div 4 (= 15)$ or $75 \div 5 (= 15)$ or $75^\circ - 60^\circ (= 15^\circ)$ is 1 student M1 for $90 \div "15" (= 6)$ or $135 \div "15" (= 9)$ A1 for peas 6, broccoli 9
6			444.07	4	M1 for $40 \times 9.60 (= 384)$ or $8 \times 14.40 (= 115.2(0))$ M1 for $12.50 + 42.63 (= 55.13)$ or subtraction of both or for "384" + "115.2" (=499.2(0)) M1 for complete method e.g. "384" + "115.2(0)" - (12.50 + 42.63) oe A1 cao

PAPER: ANM20/2A				
Question	Working	Answer	Mark	Notes
7	$24 = 2 \times 2 \times 2 \times 3$ $60 = 2 \times 2 \times 3 \times 5$ HCF is $2 \times 2 \times 3 =$	12	3	M1 for a method to find the factors of 24 (at least 4 from 1, 2, 3, 4, 6, 8, 12 or 24) or 60 (at least 5 from 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, or 60) or for factor trees showing at least 2 factors of both numbers or one complete factor tree for 24 or 60 M1 for showing one common factor (1, 2, 3, 4, 6, 12) or both complete lists of factors or for showing two complete factor trees for 24 and 60 or showing $2 \times 2 \times 2 \times 3$ or $2 \times 2 \times 3 \times 5$ A1 cao
8		50.3	3	M1 for $C = 2 \times \pi \times r$ or $\pi \times r$ or πD or for $\pi \times 8$ or answer of 25.1(32...) M1 for $\pi \times 16$ oe A1 for answer in range 50.2 to 50.3 accept 16π
9		35, 28	2	M1 for $63 \div (5 + 4) (= 7)$ oe or for three other ratios which are multiples of 5 : 4 A1 for 35 and 28 in either order.
10		21	3	M1 for $200 \times 3.5 \div 100 (= 7)$ oe or $200 \times 3 \div 100 (= 6)$ M1 for $200 \times 0.035 \times 3$ oe or 221 or 179 A1 cao
11		226	3	M1 for $\pi \times 3 \times 3 (= 28.27(43...))$ or $\pi \times r^2 \times h$ M1 for "28.27(43...)" $\times 8$ or $\pi \times 3^2 \times 8$ A1 for answer in range 225 to 227

PAPER: ANM20/2A					
Question		Working	Answer	Mark	Notes
12			$\frac{3}{4}$ of 72	3	M1 for $\frac{70}{100} \times 75 (= 52.5)$ or for $72 \div 4 \times 3 (= 54)$ A1 for 52.5 and 54 A1 ft (dep on M1 and on two figures shown) for conclusion “ $\frac{3}{4}$ of 72”
13			6	2	M1 for $72 \div 12$ A1 cao
14			69.5	4	M1 for any division of the shape into rectangles and a triangle or completed to show outer rectangle or rectangle and trapezium (could be implied from working) M1 for calculating area of one rectangle or triangle or trapezium e.g. $8 \times 7 (=56)$ or $11 \times 7 (=77)$ or $11 \times 2 (=22)$ or $5 \times 8 (=56)$ or $3 \times 2 (=6)$ or $\frac{1}{2} \times 3 \times 5 (=7.5)$ or $(8 + 1) \div 2 \times 5 (=22.5)$ M1 for complete method to find area of the shape using correct dimensions A1 cao
15			$1\frac{1}{2}$	2	M1 for correctly writing as improper fractions e.g. $\frac{15}{4} \div \frac{5}{2}$ oe or $\frac{15}{4} \times \frac{2}{5}$ oe or $3.75 \div 2.5$ A1 for $1\frac{1}{2}$ or $\frac{3}{2}$ or $\frac{30}{20}$ or $\frac{600}{400}$ or 1.5 oe
16			575	2	M1 for 500×1.15 A1 cao
17			25	2	M1 for $\frac{120-90}{120}$ or $\frac{30}{120}$ oe or 0.25 or 0.75 or $\frac{90}{120}$ A1 cao

PAPER: ANM20/2A					
Question		Working	Answer	Mark	Notes
18			-4, -3, -2, 0, 2, 4, 6	1	B1 cao
19			120	3	M1 for evidence of number times weight M1 for evidence of summing number times weight A1 cao

Section B

PAPER: ANM20/2B					
Question		Working	Answer	Mark	Notes
1	(a)		-30	1	B1 cao
	(b)		9	1	B1 cao
2	(a)	$\begin{array}{r} 12459010 \\ \underline{683} - \end{array}$	1817	2	M1 for attempting to decompose the 2500 or for 7 seen in the units column of the answer oe A1 cao
	(b)	$\begin{array}{r} 29.8 \quad 17.79 \\ \underline{15.93} + \quad \underline{4.65} + \\ 45.73 \quad 22.44 \\ \\ 45.73 - 22.44 \end{array}$	23.29	2	M1 for one correct operation eg correct method to add 29.8 to 15.93 (=45.73) or subtracting 17.79 (=12.01) or 4.65 (=25.15) or their total of 22.44 (=7.36) A1 cao

PAPER: ANM20/2B

Question		Working	Answer	Mark	Notes																		
3	(a)	$\begin{array}{r} 64 \\ \underline{8 \times} \\ 512 \end{array}$ <table border="1" style="margin: 10px 0;"> <tr><td></td><td>6</td><td>4</td><td>×</td></tr> <tr><td></td><td>4</td><td>3</td><td>8</td></tr> <tr><td>5</td><td>1</td><td>2</td><td></td></tr> </table> <table border="1" style="margin: 10px 0;"> <tr><td>×</td><td>60</td><td>4</td></tr> <tr><td>8</td><td>480</td><td>32</td></tr> </table>		6	4	×		4	3	8	5	1	2		×	60	4	8	480	32	51.2	2	M1 for a complete method with correct place value or for a complete grid, condone one multiplication error, addition not necessary or for digits 512 A1 cao
		6	4	×																			
		4	3	8																			
5	1	2																					
×	60	4																					
8	480	32																					
(b)	$\begin{array}{r} 7.515 \\ \underline{6 \overline{)45.30930}} \end{array}$	7.515	2	M1 for traditional method for division with 7 remainder 3 seen or for adding zero to 45.09 to allow division into 30 oe A1 cao																			
(c)		15.96	1	B1 cao																			
4	(a)		$\frac{1}{5}$	2	M1 for $\frac{60}{300}$ oe A1 cao																		
	(b)		20	2	M1 for $\frac{30}{150}$ oe or $\frac{0.5}{2.5}$ oe A1 cao																		

PAPER: ANM20/2B				
Question	Working	Answer	Mark	Notes
5	$\frac{80 \times 20}{40} = \frac{1600}{40} \quad \text{or}$ $\frac{80 \times 21}{40} = \frac{1680}{40}$ <p>or 2×20 or $80 \div 2$ or 2×21</p>	40	3	<p>M1 for rounding at least two figures e.g. two of 80, 21, 20 or 40 (which could be evidenced through partial calculation)</p> <p>M1 (dep M1) for rounding and one operation correctly performed e.g. sight of 1600, 2, 0.5, 1680</p> <p>A1 for 40 to 42</p>
6		18.64	3	<p>M1 for $699 \div 3 (= 233)$ or $6.99 \div 3 (= 2.33)$ or $6.99 \times 8 (= 55.92)$ or $699 \times 8 (= 5592)$ or $6.99 \times 5 (= 34.95)$ or $699 \times 5 (= 3495)$</p> <p>M1 for “233” $\times 8$ or “2.33” $\times 8$ or “55.92 $\div 3$” or “5592” $\div 3$ or $6.99 + (6.99 \times 5 \div 3)$</p> <p>A1 cao</p>
7		$\frac{9}{20}$	1	B1 oe
8		63.25	3	<p>M1 for $\frac{15}{100} \times 55 (= 8.25)$ or $5.50 + 2.75 (= 8.25)$ oe</p> <p>M1 for $55 + “8.25”$ or 55×1.15 oe or 46.75</p> <p>A1 cao</p> <p>SC: B1 for £62.75</p>
9		165	2	<p>M1 for $5\frac{1}{2} \times 30$</p> <p>A1 cao</p>
10		24 : 48	1	B1 for 24 : 48 oe

PAPER: ANM20/2A

PAPER: ANM20/2A				
Question	Working	Answer	Mark	Notes
11		$3\frac{5}{8}$	2	M1 for writing both fractions with a common denominator e.g. $\frac{7}{8}$ and $\frac{2}{8}$ $\left(= \frac{5}{8} \right)$ oe or $\frac{47}{8}$ and $\frac{18}{8}$ $\left(= \frac{29}{8} \right)$ oe or $\frac{188}{32}$ and $\frac{72}{32}$ $\left(= \frac{116}{32} \right)$ oe A1 oe mixed number

