



Pearson

Mark Scheme (Results)

January 2018

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

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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	(a)	8.3	1	B1 cao
	(b)	3.6	1	B1 cao
2	(a)	42 875	1	B1 cao
	(b)	25	2	M1 for 49 or 576 or ± 25 A1 cao
3		Correct pie chart	4	M1 for $\frac{40}{90} \times 360 (= 160)$ or $\frac{30}{90} \times 360 (= 120)$ or $\frac{20}{90} \times 360 (= 80)$ oe 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 & 3 sectors) type of music names as labels or key (not angles)
4	(a)	18.81	1	B1 cao
	(b)	80p or £0.80	2	M1 for $3.99 \div 5$ or 0.798 or 79.8 or 0.79 or 79 or 80.0p or £0.8 or 0.80(p) or 80 A1 for 80p or £0.80
5		410.18	4	M1 for $30 \times 10.65 (= 319.5(0))$ or $8 \times 15.98 (= 127.84)$ M1 for $6.20 + 30.96 (= 37.16)$ M1 for complete method eg “319.5”+ “127.84” – “37.16” A1 cao

PAPER: ANM20_2A				
Question	Working	Answer	Mark	Notes
6		160	2	M1 for $100 \div 5 (=20)$ or $100 \times 8 (=800)$ A1 cao
7		113	3	M1 for $A = \pi r^2$ or sight of $\pi \times 12 \times 12 (=452.(389\dots))$ M1 for $\pi \times 6 \times 6$ A1 for answer in range 113 to 113.2... accept 36π
8	$18 = 2 \times 3 \times 3$ $48 = 2 \times 2 \times 2 \times 2 \times 3$ LCM is $2 \times 2 \times 2 \times 2 \times 3 \times 3 =$	144	3	M1 for list of 3 multiples of one number (e.g. 18, 36, 54 ...or 48, 96, 144 ... or for factor trees showing at least two prime factors of both (2, 3,3 and 2, 2,2,2,3) or one complete factor tree or all prime factors shown as a product for just one M1 for list of 3 multiples of each number or for factor trees showing all prime factors of both or complete factor trees or all prime factors shown as a product for both A1 cao
9		112.5	2	M1 for 9×12.5 A1 cao
10		24	3	M1 for $400 \times 0.02 (= 8)$ or $400 \times 3 \div 100 (= 12)$ oe M1 for $400 \times 0.02 \times 3$ or 424 or 376 A1 cao

PAPER: ANM20_2A				
Question	Working	Answer	Mark	Notes
11		350	3	M1 for $5 \times 14 \div 2 (= 35)$ or $5 \times 14 \times 10 (= 700)$ M1 for $5 \times 14 \times 10 \div 2$ A1 cao
12		$1\frac{7}{8}$	2	M1 for correctly writing as improper fractions e.g. $\frac{21}{4} \div \frac{14}{5}$ or $\frac{21}{4} \times \frac{5}{14}$ or $5.25 \div 2.8$ A1 for $1\frac{7}{8}$ or $\frac{15}{8}$ or $\frac{105}{56}$ or 1.875 oe
13		112	4	M1 for finding any dimension of the picture, identified as such e.g. $20 - 4 (= 16)$ or $12 - 4$ [but not for sight of 8 unless supported] M1 for any areas e.g. $20 \times 12 (= 240)$ M1 for subtraction of their rectangular areas eg $(20 \times 12) - ("16" \times "8")$ A1 cao
14		120	2	M1 for $150 \div 1.25$ A1 cao
15		72, 48	2	M1 for a first step e.g. $120 \div (3 + 2) (=24)$ oe or for three other ratios which are multiples of 3:2 A1 for the numbers 72 and 48, in any order.

PAPER: ANM20_2A				
Question	Working	Answer	Mark	Notes
16		70% of 70	3	M1 for $72 \div 3 \times 2 (= 48)$ or $\frac{70}{100} \times 70 (= 49)$ oe A1 for 48 and 49 A1 ft (dep on M1 and on two figures shown) for conclusion e.g. 70% of 70
17		174	3	M1 for evidence of score times frequency M1 for evidence of summing score times frequency A1 cao
18		20	2	M1 for $(30 - 25) \div 25$ or $\frac{5}{25}$ oe or $\frac{30}{25}$ oe or 1.2 A1 cao

Section B

PAPER: ANM20_2B																																
Question	Working	Answer	Mark	Notes																												
1	(a) $\begin{array}{r} 23^0 0^0 0^1 0 \\ \underline{1274} - \end{array}$	1726	2	M1 for evidence for decomposing the 3000 or to use the method of equal addition or for 6 seen in the units column of the answer A1 cao																												
	(b) $\begin{array}{r} 72.6 \\ \underline{35.57} + \\ 108.17 \\ 108.17 - 95.39 \end{array} \quad \begin{array}{r} 89.78 \\ \underline{5.61} + \\ 95.39 \end{array}$	12.78	2	M1 for correct method to add 72.6 to 35.57 (=108.17) or subtracting 89.78 or 5.61 or their total of 95.39 A1 cao																												
2		-7, -5, -4, -2, 0, 5, 6	1	B1 cao																												
3	(a) $\begin{array}{r} 536 \\ \underline{6} \times \\ 3216 \end{array}$	32.16	2	M1 for attempt to multiply 536 by 6 which may be from an incomplete method of multiplication or digits 3216 Or for complete grid, condone one multiplication error, addition not necessary A1 cao																												
	(b) <table border="1" data-bbox="376 938 728 1088"> <tr><td></td><td>5</td><td>3</td><td>6</td><td>×</td></tr> <tr><td></td><td>3</td><td>1</td><td>3</td><td>6</td></tr> <tr><td></td><td>0</td><td>8</td><td>6</td><td></td></tr> <tr><td>3</td><td>2</td><td>1</td><td>6</td><td></td></tr> </table> <table border="1" data-bbox="376 1120 788 1200"> <tr><td>×</td><td>500</td><td>30</td><td>6</td></tr> <tr><td>6</td><td>3000</td><td>180</td><td>36</td></tr> </table>		5	3	6	×		3	1	3	6		0	8	6		3	2	1	6		×	500	30	6	6	3000	180	36	15.96	1	B1 cao
	5	3	6	×																												
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×	500	30	6																													
6	3000	180	36																													

PAPER: ANM20_2B				
Question	Working	Answer	Mark	Notes
4	(a)	$\frac{2}{5}$	2	M1 for $\frac{72}{180}$ oe A1 cao
	(b)	40	2	M1 for $\frac{32}{80} \times 100$ A1 cao
5	$\frac{8 \times 20}{0.5} = \frac{160}{0.5}$; $\frac{8 \times 19}{0.5} = \frac{152}{0.5}$ or 16×20 or 8×40 or 16×19 or 8×38	300 to 320	3	M1 for rounding at least two figures to 8, 0.5, 20 or 19 (which could be evidenced through partial calculation) M1 for rounding and one operation e.g. sight of 160 or 152, 2, 0.5, 1680 A1 for answer in range 300 to 320
6		4.50	3	M1 for $750 \div 5 (= 150)$ or $7.5 \div 5 (= 1.5)$ or $750 \times 3 (= 2250)$ or $7.5 \times 3 (= 22.5)$ or $750 \times 2 (= 1500)$ or $7.5 \times 2 (= 15)$ M1 for “150” × 3 or “1.5” × 3 or “2250” ÷ 5 or 4.5 or $7.50 - (7.50 \div 5 \times 2)$ or $7.50 - 3$ A1 for 4.50
7	(a)	-4	1	B1 cao
	(b)	9	1	B1 cao Accept +9
	(c)	-15	1	B1 cao
	(d)	3	1	B1 cao Accept +3

PAPER: ANM20_2B				
Question	Working	Answer	Mark	Notes
8		2200	3	M1 for $\frac{20}{100} \times 2750 (= 550)$ oe M1 for $2750 - "550"$ or for 2750×0.8 oe A1 cao
9		$\frac{8}{15}$	1	B1 oe
10		5 : 8	2	M1 20 : 32 or 10 : 16 or 8 : 5 A1 cao
11	$3 - 1 = 2$ and $2 \frac{9}{12} - \frac{4}{12} = 2 \frac{5}{12}$ Or $\frac{45}{12} - \frac{16}{12} = \frac{29}{12}$	$2 \frac{5}{12}$	2	M1 for dealing with whole numbers and writing both fractions with a common denominator (and at least one correct numerator) or writing both fractions as top heavy fractions with a common denominator (and at least one correct numerator) A1 oe mixed number

