

Mark Scheme (Results)

Summer 2014

Pearson Edexcel International GCSE  
Mathematics A (4MA0/2F) Paper 2F

Pearson Edexcel Level 1/Level 2 Certificate  
Mathematics A (KMA0/2F) Paper 2F

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.
- Types of mark
  - M marks: method marks
  - A marks: accuracy marks
  - B marks: unconditional accuracy marks (independent of M marks)
- Abbreviations
  - cao – correct answer only
  - ft – follow through
  - isw – ignore subsequent working
  - SC - special case
  - oe – or equivalent (and appropriate)
  - dep – dependent
  - indep – independent
  - eeoo – each error or omission

- 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.
- 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 it is clear from the working that the “correct” answer has been obtained from incorrect working, award 0 marks.  
Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks.  
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 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.  
If there is no answer on the answer line then check the working for an obvious answer.
- 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: eg. 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 eg algebra.  
Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.
- Parts of questions  
Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

Apart from Question 23a (where the mark scheme states otherwise) the correct answer, unless obtained from an incorrect method, should be taken to imply a correct method.

Question	Working	Answer	Mark	Notes
<b>1</b> (a)		7365, 7512, 7645, 7683	1	B1
(b)		0.035, 0.05, 0.3, 0.53	1	B1
(c) (i)		8541	1	B1
(ii)		1485	1	B1
(d)		42 or 48	1	B1 42 or 48 or 42, 48
				<b>Total 5 marks</b>

Question	Working	Answer	Mark	Notes
<b>2</b> (a)		12	1	
(b)	13 – 6			M1
		7	2	A1
(c)		$3\frac{3}{4}$ calculators	1	B1
				<b>Total 4 marks</b>

Question	Working	Answer	Mark	Notes
3 (a)		diameter	1	B1
(b)		7.5 cm or 75 mm	2	B1 accept 7.3 - 7.7 B1 cm <b>or</b> B1 for 73 - 77 B1 mm <b>or</b> B1 for 2.9 - 3.1 B1 inches
(c) (i)		pyramid	1	B1
(ii)		prism	1	B1
(d) (i)		8	1	B1
(ii)		5	1	B1
				<b>Total 7 marks</b>

Question	Working	Answer	Mark	Notes
4	$6.99 + 2 \times 3.50 + 1.20 = 15.19$			M1 intention to add all prices (may be seen as successive subtractions)
	20 - "15.19"			M1 complete method
		4.81	3	A1
				<b>Total 3 marks</b>

Question	Working	Answer	Mark	Notes
<b>5</b> (a) (i)		centimetres	1	B1 accept cm
(ii)		kilograms	1	B1 accept kg
(iii)		square metres	1	B1 accept m <sup>2</sup>
(b)		6000	1	B1
(c)		35	1	B1
				<b>Total 5 marks</b>

Question	Working	Answer	Mark	Notes
<b>6</b> (a) (i)		$5m$	1	B1 accept $m5$ , $5 \times m$ , $m \times 5$
(ii)		$7ph$	1	B1 accept $ph7$ , $p7h$ etc
(b)		3	1	B1
(c)		14	1	B1
				<b>Total 4 marks</b>

Question	Working	Answer	Mark	Notes
<b>7</b> (a)		B, G	1	B1
(b)		F	1	B1
(c)		D	1	B1
				<b>Total 3 marks</b>

Question	Working	Answer	Mark	Notes
8 (a)	$2 \times 5 + 4$			M1 for substitution
		14	2	A1
(b)	$28 = 2a + 3$			M1 for correct substitution or rearrangement
	$a = \frac{28-3}{2}$			M1 for correct rearrangement of correct substitution
		12.5	3	A1 for 12.5 oe
				<b>Total 5 marks</b>

Question	Working	Answer	Mark	Notes
9 (a)		4%	1	B1
(b)	$\frac{3}{7} \times 224$			M1 for full method
		96	2	A1
(c)		14	1	B1
(d)		1024	1	B1
				<b>Total 5 marks</b>

Question	Working	Answer	Mark	Notes
10	$24 \times 5 = 120$			M1
	$120 \div 2 \times 0.4 = 24$ and $\frac{60}{3} \times 1 = 20$			M1
	"24" + "20" - 36			M1 dep
		8	4	A1
				<b>Total 4 marks</b>



Question	Working	Answer	Mark	Notes
11 (a)		$\frac{32}{85}$	1	B1
(b)	85 : 120			M1
		17 : 24	2	A1
(c)	35 ÷ 5			M1 or $\frac{2}{5} \times 35$
	7 × 2	14	2	A1
(d)	$\frac{120}{10} \times 12$			M1 for full method
		84	2	A1
				<b>Total 7 marks</b>

Question	Working	Answer	Mark	Notes
12 (a)(i)		16	1	B1
(ii)		7.5	1	B1 accept answers in range 7.4 - 7.6
(b)	eg 10 × 5 or 8 × 6.2			M1 for full method
		50	2	A1 accept 49.6 - 50
				<b>Total 4 marks</b>

Question	Working	Answer	Mark	Notes
13	20 - 3 - 8 = 9			M1 for fraction with denominator of 20 or numerator of 9
		$\frac{9}{20}$	2	A1
				<b>Total 2 marks</b>

Question	Working	Answer	Mark	Notes
<b>14</b> (a)	40/16 or 16/40 40/55 or 55/40			M1
		22	2	A1
(b)	$\frac{9}{72} \times 360$			M1 for 9/72 or 72/9 or 360/72(=5)
		45	2	A1
<b>Total 4 marks</b>				

Question	Working	Answer	Mark	Notes
<b>15</b>	$360 - (118 + 47 + 103)$			M1
		92	2	A1
<b>Total 2 marks</b>				

Question	Working	Answer	Mark	Notes
<b>16</b> (a)	$\pi \times 7.6^2$			M1
		181	2	A1 181(.4583...) accept answers 181 – 182 inclusive
(b) (i)		7.65	1	B1 accept 7.649̇
(ii)		7.55	1	B1
<b>Total 4 marks</b>				

Question	Working	Answer	Mark	Notes
17 (a)	$0.15 \times 270 (=40.5)$			M1 M2 for $0.85 \times 270$
	$270 - "40.5"$			M1 dep on M1 above
		229.50	3	A1 accept 229.5
(b)	$13.50 \div 15 (=0.9)$			M1
	$"0.9" \times 100$			M1 dep on M1 above
		90	3	A1
				<b>Total 6 marks</b>

Question	Working	Answer	Mark	Notes
18	$1 - (0.4 + 0.35 + 0.1)$			M1
		0.15	2	A1
				<b>Total 2 marks</b>

Question	Working	Answer	Mark	Notes
19	$360 \div 15$			M1
		24	2	A1
				<b>Total 2 marks</b>

Question	Working	Answer	Mark	Notes
20	$126 \times 0.89 (=112.14)$			M1
	$165.24 \div 1.62 (=102)$			M1
	$"112.14" - "102"$			M1 dep on both previous M marks "112.14" denotes ft from first M1 "102" denotes ft from second M1
		10.14	4	A1
				<b>Total 4 marks</b>

Question	Working	Answer	Mark	Notes
21	Arc centre $B$ cutting $BA$ and $BC$ at $P$ and $Q$ where $BP = BQ$			M1 for arcs within guidelines
		correct bisector	2	A1 dep
				<b>Total 2 marks</b>

Question	Working	Answer	Mark	Notes
22	$18.6^2 - 7.2^2 (=294.12)$			M1 for squaring and subtracting
	$\sqrt{294.12}$			M1 (dep) for square root
		17.1	3	A1 for answer rounding to 17.1
				<b>Total 3 marks</b>

Question	Working	Answer	Mark	Notes
23 (a)	$5x = 17 + 6$ $7x - 2x = 23$			M2 for correct rearrangement with $x$ terms on one side and numbers on the other <b>AND</b> collection of terms on at least one side or for $5x - 23 = 0$ or $23 - 5x = 0$ M1 for $7x - 2x = 17 + 6$ oe ie correct rearrangement with $x$ terms on one side and numbers on the other <b>or</b> $5x - 6 = 17$ <b>or</b> $7x = 2x + 23$
		$4\frac{3}{5}$ oe	3	A1 Award full marks for a correct answer if at least 1 method mark awarded
(b)	$x^2 + 2x + 8x + 16$	$x^2 + 10x + 16$	2	B2 B1 for 3 correct terms ignoring signs or 4 correct terms with correct signs
				<b>Total 5 marks</b>

Question	Working	Answer	Mark	Notes
24	$(6 \times 5) + (10 \times 15) + (19 \times 25) + (15 \times 35)$			M2 All product, $t \times f$ using mid-points correctly and intention to add  Award M1 if all products $t \times f$ using their mid-points consistently and intention to add <b>OR</b> 3 correct products correctly stated or evaluated
	"1180" $\div$ 50			M1 (dep on at least M1) "1180" denotes ft from sum of their products
		23.6	4	A1 Accept 24 with working (24 without working gains M0A0)
				<b>Total 4 marks</b>

Question	Working	Answer	Mark	Notes
25 (a)		5, 0, -3, -4, -3, 0, 5	2	B2 B1 for at least 2 correct
(b)		correct graph	2	B2 B1 ft for all points from table plotted correctly provided at least B1 scored in (a)
				<b>Total 4 marks</b>

<b>TOTAL FOR PAPER: 100 MARKS</b>
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