
**FUNCTIONAL SKILLS LEVEL 2
MATHEMATICS
(8362)**

Paper 1 Non-Calculator Paper

Mark scheme

Version 1.0

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the learners' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of learners' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

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Glossary for Mark Schemes

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M Method marks are awarded for a correct method which could lead to a correct answer.

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B Marks awarded independent of method.

ft Follow through marks. Marks awarded following a mistake in an earlier step.

SC Special case. Marks awarded within the scheme for a common misinterpretation which has some mathematical worth.

oe Or equivalent. Accept answers that are equivalent.
eg, accept 0.5 as well as $\frac{1}{2}$

dep If a mark is given as 'M1dep' it means that if the values used for the mark are incorrect a learner must have been awarded the previous mark(s) to gain this mark. However, the use of correct values for this mark implies the previous mark(s).
eg

17 ÷ 2 or 8.5	M1	
their 8.5 × 9 or 76.5	M1dep	

eg1: a learner shows $17 \div 2 = 9.5$, then 9.5×9 M1 for $17 \div 2$ calculated, then M1dep for correct use of the result of that calculation; a correct method has been shown for the first mark, even though the result is incorrect

eg2: a learner shows 9.5×9 M0, as the first mark cannot be awarded because no method has been shown

eg 3: a learner shows 76.5 M2, as the correct value gains the second mark and implies the first mark.

Question	Answer	Mark	Comments
1	0.6	B1	
2	4.165	B1	
3	180 – 2 × 36 or 180 – 72	M1	
	108	A1	
4	Correct point plotted at (–3, 2)	B1	
5	3 ² calculated before 2 × 3 and 2 × their 9 calculated before 25 – 2	M1	implied by 25 – 18
	7	A1	
6	C	B1	

Question		Mark	Comments	
7(a)	48 ÷ 4 or 12	M1		
	their 12 × 500 or 6000	M1	their 12 can be any integer > 1	
	their 6000 ÷ 1000 or 6	M1dep	dep on second mark	
	their 6 – 1.4 or 4.6	M1dep		
	5	A1		
	Additional Guidance			
	48 × 500 ÷ 1000 = 24, 24 – 1.4 = 22.6, answer 23			MOM1M1M1A0
	4 × 500 ÷ 1000 = 2, 2 – 1.4 = 0.6, answer 1			MOM1M1M1A0
	Answer only 23 or 1			0

Question	Answer	Mark	Comments
7(b)	Alternative method 1		
	60 : 140 : 40	M1	oe ratio 6 : 14 : 4 or 3 : 7 : 2
	48 ÷ (60 + 140 + 40) or 48 ÷ 240 or 0.2	M1dep	oe 48 ÷ (3 + 7 + 2) or 48 ÷ 12 or 4
	their 0.2 × 60 and their 0.2 × 140 and their 0.2 × 40	M1dep	oe their 4 × 3 and their 4 × 7 and their 4 × 2 or correct method to work out two values and subtracts them from 48 to find the third
	12 strawberry and 28 vanilla and 8 mint	A1	
	Alternative method 2		
	240 ÷ 48 or 5	M1	
	60 ÷ their 5 or 12 (strawberry) or 140 ÷ their 5 or 28 (vanilla) or 40 ÷ their 5 or 8 (mint)	M1dep	
	60 ÷ their 5 or 12 (strawberry) and 140 ÷ their 5 or 28 (vanilla) and 40 ÷ their 5 or 8 (mint)	M1dep	
	12 strawberry and 28 vanilla and 8 mint	A1	oe eg works out two values and subtracts them from 48 to find the third

Question	Answer	Mark	Comments
7(b) cont.	Alternative method 3		
	$\frac{60}{60+140+40}$ or $\frac{60}{240}$ and $\frac{140}{60+140+40}$ or $\frac{140}{240}$ and $\frac{40}{60+140+40}$ or $\frac{40}{240}$	M1	oe eg $\frac{1}{4}$ and $\frac{7}{12}$ and $\frac{1}{6}$
	48 x their $\frac{1}{4}$ or 12 (strawberry) or 48 x their $\frac{7}{12}$ or 28 (vanilla) or 48 x their $\frac{1}{6}$ or 8 (mint)	M1dep	
	48 x their $\frac{1}{4}$ and 48 x their $\frac{7}{12}$ and 48 x their $\frac{1}{6}$	M1dep	oe eg works out two values and subtracts them from 48 to find the third
	12 strawberry and 28 vanilla and 8 mint	A1	
	Additional Guidance		
	Correct value for any one flavour implies M1M1		

Question		Mark	Comments
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7(c)	Alternative method 1		
	50 ÷ 40 or 1.25 or 1 h 15 min	M1	
	9 – 1 hour 15 – 30 minutes or 7.15	M1	
	7.15 (am) and Yes	A1	
	Alternative method 2		
	50 ÷ 40 or 1.25 or 1 h 15 min	M1	
	7.10 + 1 hour 15 minutes + 30 minutes	M1	
	8.55 (am) and Yes	A1	
	Alternative method 3		
	Time from 7.10 to 9 – 30 minutes or 80 minutes or $1\frac{1}{3}$ hours	M1	
	50 ÷ $\frac{\text{their } 80}{60}$ or 50 ÷ their $1\frac{1}{3}$ or 37.5	M1	
	37.5 (mph) and Yes	A1	
	Alternative method 4		
	Time from 7.10 to 9 – 30 minutes or 80 minutes or $1\frac{1}{3}$ hours	M1	
	40 × $\frac{\text{their } 80}{60}$ or 40 × their $1\frac{1}{3}$ or 53(.3...)	M1	
	53(.3...) (miles) and Yes	A1	

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Paper 2 Calculator Paper

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oe Or equivalent. Accept answers that are equivalent.
eg, accept 0.5 as well as $\frac{1}{2}$

dep If a mark is given as 'M1dep' it means that if the values used for the mark are incorrect a learner must have been awarded the previous mark(s) to gain this mark. However, the use of correct values for this mark implies the previous mark(s).
eg

17 ÷ 2 or 8.5	M1	
their 8.5 × 9 or 76.5	M1dep	

eg1: a learner shows $17 \div 2 = 9.5$, then 9.5×9 M1 for $17 \div 2$ calculated, then M1dep for correct use of the result of that calculation; a correct method has been shown for the first mark, even though the result is incorrect

eg2: a learner shows 9.5×9 M0, as the first mark cannot be awarded because no method has been shown

eg 3: a learner shows 76.5 M2, as the correct value gains the second mark and implies the first mark.

Question	Answer	Mark	Comments
1	8	B1	
2	12.116	B1	
3	0.85	B1	oe fraction, decimal or percentage
4	260×1.17	B1	
5	403720	B1	Accept a comma between the 3 and the 7
6	$4\frac{5}{8}$	B1	oe eg $\frac{37}{8}$, 4.625
7	$\pi \times 8.3^2$ or [216.3, 216.5] or 68.89π or $\pi \times 5.2^2$ or [84.9, 85] or 27.04π	M1	oe
	[131.3, 131.6] or 41.85π	A1	

Question	Answer	Mark	Comments
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8	3 by 1 rectangle drawn with internal lines	B1	any orientation condone one or both missing internal lines
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9	Alternative method 1		
	5200 – 4108 or 1092	M1	
	their 1092 ÷ 5200 × 100	M1dep	
	21	A1	
	Alternative method 2		
	4108 ÷ 5200 or 0.79	M1	implied by 79
	100 – their 0.79 × 100	M1dep	
	21	A1	

Question	Answer	Mark	Comments
10(a)	Alternative method 1		
	20×11 or 220 or $0.5 \times 7 \times 5$ or 17.5 or 7×5 or 35	M1	
	$20 \times 11 + 0.5 \times 7 \times 5 + 7 \times 5$ or $220 + 17.5 + 35$	M1dep	
	272.5	A1	
	Alternative method 2		
	7×11 or 77 or $0.5 \times 7 \times 5$ or 17.5 or $(20 - 7 - 7) \times 11$ or 6×11 or 66 16×7 or 112	M1	may combine first two areas as $0.5 \times (16 + 11) \times 7$ or 94.5
	$7 \times 11 + 0.5 \times 7 \times 5 + (20 - 7 - 7) \times 11 + 16 \times 7$ or $77 + 17.5 + 66 + 112$ 272.5	M1dep	may combine first two areas as $0.5 \times (16 + 11) \times 7$ or 94.5
	272.5	A1	
	Alternative method 3		
	20×16 or 320 or $0.5 \times 7 \times 5$ or 17.5 or $(20 - 7 - 7) \times 5$ or 6×5 or 30	M1	
	$20 \times 16 - 0.5 \times 7 \times 5 - (20 - 7 - 7) \times 5$ or $320 - 17.5 - 30$	M1dep	
	272.5	A1	

Question	Answer	Mark	Comments
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10(b)	Alternative method 1		
	their 272.5×14 or 3815	M1	
	their $3815 \div 5$ or 763	M1dep	
	their $763 \div 25$	M1dep	
	30.52	A1ft	ft their 272.5
	31	A1ft	ft their 30.52 rounded up to the nearest whole number
	Alternative method 2		
	$14 \div 5$ or 2.8	M1	
	their $272.5 \times$ their 2.8 or 763	M1dep	
	their $763 \div 25$	M1dep	
	30.52	A1ft	ft their 272.5
	31	A1ft	ft their 30.52 rounded up to the nearest whole number

Question	Answer	Mark	Comments
10(c)	$6 \times 100 \div 200$ or $10 \times 100 \div 200$ or $4 \times 100 \div 200$ or $2 \times 100 \div 200$	M1	implied by any correct length to scale may be seen beside table
	Climbing frame (3 cm by 3 cm) and swing set (5 cm by 2 cm) and 2 rockers (each 1 cm by 1 cm) drawn to correct scale	A2	A1 any one of these items drawn to correct scale
	Sandpit drawn with radius 3 cm	A1	
	All items drawn to correct scale and labelled	A1	
	Additional guidance		
	Mark the final grid unless blank		
	Where shapes are drawn freehand, withhold first accuracy mark awarded only		

Question	Answer	Mark	Comments
11(a)	Alternative method 1		
	230 × 14.25 or 3277.5(0)	M1	
	their 3277.5(0) + 1660 + 400 + 350 or 5687.5(0)	M1dep	
	their 5687.5(0) + 5000 or 10687.5(0)	M1dep	
	their 10687.5(0) ÷ 230	M1dep	
	46.4...	A1	implied by a correctly rounded answer
	£46.50 or £47 or £50	B1ft	ft their price per ticket rounded up to the nearest 50p or pound or 5 pounds or 10 pounds
	Alternative method 2		
	1660 ÷ 230 or 7.22 or 400 ÷ 230 or 1.74 or 350 ÷ 230 or 1.52 or 1660 + 400 + 350 or 2410	M1	
	1660 ÷ 230 + 400 ÷ 230 + 350 ÷ 230 or their 7.22 + their 1.74 + their 1.52 or (1660 + 400 + 350) ÷ 230 or their 2410 ÷ 230 or 10.48	M1dep	
	5000 ÷ 230 or 21.75	M1dep	
	their 10.48 + their 21.75 + 14.25	M1dep	
	46.48	A1	implied by a correctly rounded answer
	£46.50 or £47 or £50	B1ft	ft their price per ticket rounded up to the nearest 50p or pound or 5 pounds or 10 pounds

Question	Answer	Mark	Comments
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11(b)	$97.5 \div 3.25$ or 30	M1	
	their 30×200 or 6000	M1	number of leaflets
	their $6000 \div 1000 \times 18$ or 108	M1	oe
	their $108 \div 100 \times (100 - 12.5)$	M1	oe 108×0.875
	94.50	A1	

Question	Answer	Mark	Comments
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11(c)	Alternative method 1		
	800 × 2 or 1600	M1	
	110 ÷ their 1600 × 100 or 6.875(%)	M1dep	oe
	6.875(%) and Yes	A1	
	Alternative method 2		
	110 ÷ 2 or 55	M1	
	their 55 ÷ 800 × 100 or 6.875(%)	M1dep	oe
	6.875(%) and Yes	A1	
	Alternative method 3		
	800 × 2 or 1600	M1	
	their 1600 × 0.05 or 80	M1dep	oe
	80 and Yes	A1	
	Alternative method 4		
	110 ÷ 2 or 55	M1	
	800 × 0.05 or 40	M1dep	oe
	55 and 40 and Yes	A1	
	Additional Guidance		
	For M2A0 or M2A1 accept probabilities shown as corresponding decimals or fractions with a common denominator, eg 0.05 and 0.06875 or $\frac{40}{800}$ and $\frac{55}{800}$		
	Condone decimal numbers as numerators, eg $\frac{1}{20}$ and $\frac{1.375}{20}$		

Question	Answer	Mark	Comments
12(a)	43 – 37 or 6	M1	
	6 and Yes and Lower range	A1	
	Additional Guidance		
	Answer of Lower range with no working		M0A0
12(b)	$37 (\times 1) + 38 (\times 1) (+ (39 \times) 0) + 40 \times 4 + 41 \times 2 (+ 42 \times) 0 + 43 \times 4$ or $37 + 38 (+ 0) + 160 + 82 (+ 0) + 172$ or 489	M1	may be seen beside table
	their 489 \div 12	M1 dep	
	40.75	A1	
	40.75 and Yes and Higher mean	A1ft	ft their mean with M2 scored
	Additional Guidance		
	Answer of Higher mean with no working		M0A0
12(c)	$\frac{1}{3} \times \frac{1}{3}$ calculates differences	M1	oe $(\frac{1}{3})^2$
	$\frac{1}{9}$	A1	oe fraction
	Additional Guidance		

Question	Answer	Mark	Comments
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13(a)	$\pi \times 4^2 \times 15$ or 240π or [753.6, 754.1]	M1	
	$\frac{100-10}{100}$ or $\frac{90}{100}$ or 0.9(0)	M1	
	their [753.6, 754.1] $\times \frac{100-10}{100} \times$ 0.83	M1dep	dep on M2
	[562.9, 563.32]	A1	amount for one candle
	their [562.9, 563.32] $\times 2500$ or [1 407 250, 1 408 300] or their [562.9, 563.32] $\div 1000$ or [0.5629, 0.56332]	M1	
	their [1 407 250, 1 408 300] $\div 1000$ or their [0.5629, 0.56332] $\times 2500$	M1dep	dep on previous mark
	[1407, 1408.3]	A1ft	ft their amount for one candle

13(b)	$9.6 \div 1.2$ or 8	M1	
	$9.6 - \text{their } 8$ or (£)1.6(0)	M1	
	£1.60	A1	Condone £1.60p
	Additional Guidance		
	Working out 20% of 9.60, which gives an answer of 1.92 or 7.68		0

Question	Answer	Mark	Comments	
13 (c)	19410 – 11850 or 7560	M1		
	their 7560 × 0.2	M1	oe	
	1512	A1		
	Additional Guidance			
	19410 × 0.2 or 3882	MOM1A0		
	11850 × 0.2 or 2370	MOM1A0		