GCSE
MATHEMATICS
8300/1F

Foundation Tier Paper 1 Non-Calculator

Mark scheme

June 2021

Version: 1.0 Final

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 students' 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 students' 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.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aqa.org.uk

Glossary for Mark Schemes

GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Mathematics papers, marks are awarded under various categories.

If a student uses a method which is not explicitly covered by the mark scheme the same principles of marking should be applied. Credit should be given to any valid methods. Examiners should seek advice from their senior examiner if in any doubt.

M	Method marks are awarded for a correct method which could lead to a correct answer.
A	Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
B	Marks awarded independent of method.
ft	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
SC	Special case. Marks awarded for a common misinterpretation which has some mathematical worth.
M dep	A method mark dependent on a previous method mark being awarded.
B dep	A mark that can only be awarded if a previous independent mark has been awarded.
oe	Or equivalent. Accept answers that are equivalent. eg accept 0.5 as well as $\frac{1}{2}$
[a, b]	Accept values between a and b inclusive.
[a, b)	Accept values $a \leq$ value $< b$
3.14 …	Accept answers which begin 3.14 eg 3.14, 3.142, 3.1416
Use of brackets	It is not necessary to see the bracketed work to award the marks.

Examiners should consistently apply the following principles

Diagrams

Diagrams that have working on them should be treated like normal responses. If a diagram has been written on but the correct response is within the answer space, the work within the answer space should be marked. Working on diagrams that contradicts work within the answer space is not to be considered as choice but as working, and is not, therefore, penalised.

Responses which appear to come from incorrect methods

Whenever there is doubt as to whether a student has used an incorrect method to obtain an answer, as a general principle, the benefit of doubt must be given to the student. In cases where there is no doubt that the answer has come from incorrect working then the student should be penalised.

Questions which ask students to show working

Instructions on marking will be given but usually marks are not awarded to students who show no working.

Questions which do not ask students to show working

As a general principle, a correct response is awarded full marks.

Misread or miscopy

Students often copy values from a question incorrectly. If the examiner thinks that the student has made a genuine misread, then only the accuracy marks (A or B marks), up to a maximum of 2 marks are penalised. The method marks can still be awarded.

Further work

Once the correct answer has been seen, further working may be ignored unless it goes on to contradict the correct answer.

Choice

When a choice of answers and/or methods is given, mark each attempt. If both methods are valid then M marks can be awarded but any incorrect answer or method would result in marks being lost.

Work not replaced

Erased or crossed out work that is still legible should be marked.

Work replaced

Erased or crossed out work that has been replaced is not awarded marks.

Premature approximation

Rounding off too early can lead to inaccuracy in the final answer. This should be penalised by 1 mark unless instructed otherwise.

Continental notation

Accept a comma used instead of a decimal point (for example, in measurements or currency), provided that it is clear to the examiner that the student intended it to be a decimal point.

Q	Answer	Mark	Comments
1	2	B1	

Q	Answer	Mark	Comments
2	$3x$	B1	

Q	Answer	Mark	Comments
3	26	B1	

Q	Answer	Mark	Comments
4	trapezium	B1	

Q	Answer	Mark	Comments
5	–40	B1	
	Additional Guidance		
	Do not accept +–40		

Q	Answer	Mark	Comments
6	4×0.35 or $1.4(0)$ or 4×35 or 140 or $3.7(0) - 0.35$ or 3.35 or $370 - 35$ or 335	M1	oe ignore mixed units
	3.7(0) – their 1.4(0) or 2.3(0) or 370 – their 140 or 230 or their 3.35 – 3 × 0.35 or 2.30 or their 335 – 3 × 35 or 230	M1dep	oe ignore mixed units
	their 2.3(0) ÷ 5 or (0).46 or their 230 ÷ 5	M1dep	oe ignore mixed units
	46	A1	
	Additional Guidance		
	Answer (£)(0).46 or £46		M3A0
	46 seen with further work		M3A0

Q	Answer	Mark	Comments
7(a)	$1\frac{1}{4}$ symbols added to Geography	B1	mark intention

Q	Answer	Mark	Comments
7(b)	**Alternative method 1 – pieces of homework**		
	5 × 4 or 20 or 3.5 × 4 or 14	M1	oe check diagram
	5 × 4 + 3.5 × 4 + 5 or their 20 + their 14 + 5 or 39	M1dep	oe
	19 hours 30 minutes	A1	
	Alternative method 2 – time taken		
	Correct method to find the time taken (in minutes or hours) for one subject	M1	check diagram eg (in minutes) 5 × 4 × 30 or 600 (M) 3.5 × 4 × 30 or 420 (E) 1.25 × 4 × 30 or 150 (G) eg (in hours) 5 × 2 or 10 (M) 3.5 × 2 or 7 (E) 1.25 × 2 or 2.5 (G)
	Correct method to find the time taken (consistently in minutes or hours) for all three subjects or 1170 (min) or 19.5 (h)	M1dep	
	19 hours 30 minutes	A1	
	Alternative method 3 – number of symbols		
	5 + 3.5 + 1.25 or 9.75	M1	oe
	their 9.75 × 4 or 39	M1dep	oe
	19 hours 30 minutes	A1	
	Additional Guidance		
	$19\frac{1}{2}$ (hours) or 19.5 (hours) or 19.30		M1M1A0
	Mark using the Alt that gives the best mark		

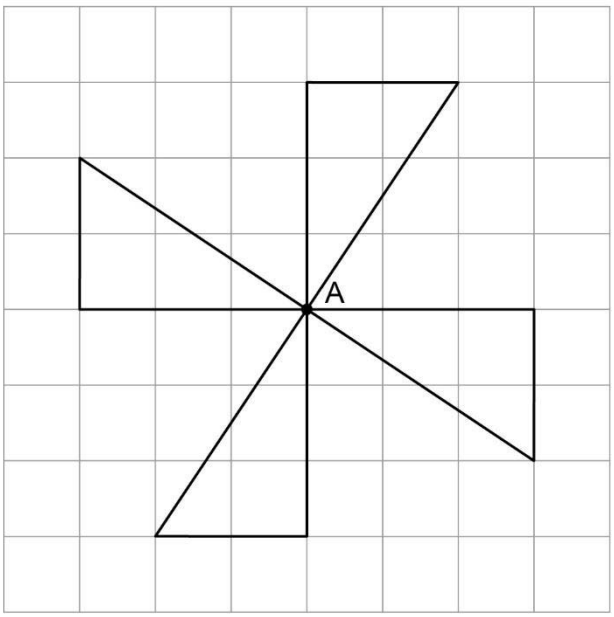
Q	Answer	Mark	Comments
8	**Alternative method 1**		
	53 × 3 or 159	M1	
	their 159 ÷ 12	M1dep	oe eg 53 ÷ 4 for build up method allow one error, must get as far as 1 minibus below their total number of passengers
	13. or 13.2 or 13.25 or 13 r (3) or $13\frac{3}{12}$ or build up method reaches 156 (for 13 minibuses) with no errors	A1	may be implied by correct answer oe fraction
	14	A1ft	ft their decimal or remainder value rounded up to the nearest whole number with M2 scored
	Alternative method 2		
	53 ÷ 12 or 4.4… or 4 r 5 or $4\frac{5}{12}$	M1	
	their 4.4… × 3 or $4\frac{5}{12} \times 3$ or $12\frac{15}{12}$	M1dep	oe fraction
	13.(2…) or 13 r (3) or $13\frac{3}{12}$	A1	may be implied by correct answer oe fraction
	14	A1ft	ft their decimal or remainder value rounded up to the nearest whole number with M2 scored

Additional guidance for this question is on the next page

	Additional Guidance	
8 cont	For answers of 14, please check for incorrect working eg 159 ÷ 12 = 14.1 and answer 14 159 ÷ 12 with result 13.8 and answer 14 159 ÷ 12 with result 13 r 2 and answer 14 159 with build up to 13 minibuses is 158 and answer 14	 M2A0A0ft M2A0A1ft M2A0A1ft M2A0A1ft
	159 ÷ 12 with no decimal or remainder value and answer 14 159 ÷ 12 = 13. Answer 13 159 ÷ 12 = 13 Answer 13	M2A2 M2A1A0 M2A0
	14 with no working	M2A2
	159 ÷ 12 with result 13.3 (bod from 13.25) and answer 14	M2A2
	159 ÷ 12 with result 13.3 (bod from 13.25) with no final answer	M2A1A0
	53 ÷ 12 = 4(.) = 5, 5 × 3 = 15, so 15 minibuses (conceptually incorrect) 53 ÷ 12 = 4.7, 4.7 × 3 = 14.1, so 15 minibuses	M1M0A0A0ft M2A0A1ft
	For build up method 53 × 3 = 159, 12 × 13 = 156 53 × 3 = 159, 12 × 13 = 156, 15 minibuses 12 × 13 = 156, without their 159 (don't know what they are building up to)	 M2A1A0 M2A1A0 M0A0
	Build up method reaches 156 (for 13 minibuses) with no errors and no answer, but says "3 more seats needed"	M2A1A0

Q	Answer	Mark	Comments
9	100°	B1	

Q	Answer	Mark	Comments
10	6	B1	

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="7">11</td><td>Fully correct diagram with rotational symmetry of order 4 and centre of rotation at point A</td><td>B2</td><td>B1
a correct rotation of the given triangle through 90° or 180° or 270°, centre of rotation at point A</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="2"> 
</td><td>B2</td></tr>
<tr><td colspan="2">Mark intention</td><td></td></tr>
<tr><td colspan="2">Where there are more than 3 extra triangles drawn on the diagram, award B1 if at least one is correct</td><td></td></tr>
<tr><td colspan="2">Students may amend original diagram (but still include the given triangle) and then use their new shape to give a diagram with rotational symmetry order 4 and centre of rotation at point A for B2
For B1, their new shape must be seen with a correct rotation through 90° or 180° or 270°, centre of rotation at point A</td><td></td></tr>
</table>

Q	Answer	Mark	Comments
12	Method for finding a percentage other than 10% or 2100×0.43 or $2100 \times \frac{43}{100}$ or $2100 \times 43 \div 100$ or 90 300	M1	eg (1% =) $2100 \div 100$ or (1% =) $210 \div 10$ or 21 or (3% =) 63 or (5% =) $210 \div 2$ or 105 or (20% =) 210×2 or 420 or (40% =) 210×4 or 840 or (50% =) $2100 \div 2$ or (50% =) 210×5 or 1050
	Fully correct method that would lead to the correct answer or 90 300 ÷ 100	M1dep	eg their 21×43 or 210×4 + their 21×3 or their 420×2 + their 21×3 or their 105×8 + their 21×3 or their 840 + their 21×3 or their 840 + their 63 or 210×5 – their 21×7 or their 1050 – their 21×7 or their 1050 – their 147
	903	A1	SC2 1197 SC1 digits 903 (with M0 scored)
	Additional Guidance		
	Ignore a % sign after 903 eg 903 %		M2A1

Q	Answer	Mark	Comments
13	There is an overlap	B1	oe eg 20 can go in two rows
	There is no category above 50	B1	oe eg 53 can't go into the table
	Additional Guidance		
	Criticism of overlapping categories, eg		
	10 (or 20, 30 or 40) can go in two places		B1
	20 (or 10 or 30 or 40) appears twice		B1
	Should be 0-9, 10-19, 20-29 etc (minimal implied criticism)		B1
	0-10; 11-20; 21-30 etc (no criticism)		B0
	It doesn't give a clear number of cars		B0
	Repeats the same number (could refer to the number of cars)		B0
	Criticism of missing categories, eg		
	There is no row for the 53 (or 57)		B1
	Doesn't go up high enough		B1
	There's not space for all the numbers		B1
	Some cars are left out		B1
	She only put up to 50		B1
	The last group is not big enough		B1
	There should be another row (minimal implied criticism)		B1
	There is a number over 50		B0
	Cars go up to 57		B0
	Add another frequency box		B0
	Drawing another row to the table with no explanation		B0

Q	Answer	Mark	Comments
14	$1 – (0.15 + 0.4)$ or $1 – 0.55$	M1	oe
	0.45	A1	oe fraction or percentage SC1 0.81 or 81% or $\frac{81}{100}$
	Additional Guidance		
	Ignore incorrect simplification or conversion of a correct probability eg 0.45 converted to $\frac{4}{5}$		M1A1
	$1 – (0.4 – 0.15)$		M0A0
	0.45 seen as final answer but nothing in table		M1A1
	Subtraction from 1 may be implied eg $0.15 + 0.4 = 0.45$, answer 0.55		M1A0
	Embedded answer eg $0.15 + 0.4 = 0.55$ then $0.55 + 0.45 = 1$		M1A0
	0.45 seen but contradictory value in table – table takes precedence		
	Working in percentages without the percentage sign is condoned for M1		

Q	Answer	Mark	Comments
15(a)	31	B1	

Q	Answer	Mark	Comments
15(b)	26.04	B1	

Q	Answer	Mark	Comments
15(c)	2604 + 31 or Valid attempt to multiply 31 by 85	M1	from traditional method their 155 + their 2480 or their 85 + their 2550 at least one correct and placeholder of zero correct or implied from grid method their 2400 + their 150 + their 80 + their 5 (at least three correct) from Chinese / Napier's bones method at least three values correct from 2/4, 1/5, (0)/8 and (0)/5 and total calculated for each diagonal with at least one carrying figure placed correctly
	2635	A1	

Q	Answer	Mark	Comments
16	1 : 3 : 2	B2	B1 5 : 15 : 10 oe ratio not in its simplest form or their 3-term ratio written in its simplest form
	Additional Guidance		
	5 : 15 : 30 simplified to 1 : 3 : 6		B1
	5 15 30 simplified to 1 : 3 : 6		B0

Q	Answer	Mark	Comments
17	$(\frac{5}{6} =) \frac{10}{12}$ or converts both fractions to a common denominator with at least one correct	M1	eg $\frac{60}{72}$ (+) $\frac{42}{72}$
	$\frac{17}{12}$	A1	oe improper fraction eg $\frac{102}{72}$
	$1\frac{5}{12}$	B1ft	oe mixed number eg $1\frac{30}{72}$ ft correct conversion of an improper fraction to a mixed number
	Additional Guidance		
	$1\frac{30}{72}$		M1A1B1
	$1\frac{5}{12}$ seen in working with $\frac{17}{12}$ on answer line		M1A1B0
	$\frac{17}{12}$ (=) $1\frac{5}{12}$ (final answer is the mixed number)		M1A1B1
	$1\frac{5}{12}$ (=) $\frac{17}{12}$ (final answer is the improper fraction)		M1A1B0

Q	Answer	Mark	Comments
18(a)	20	B1	

Q	Answer	Mark	Comments
18(b)	$28 - 20$ or $\frac{36-20}{2}$ or $\frac{44-20}{3}$ or $\frac{52-20}{4}$ or $\frac{60-20}{5}$ or correct calculation using any two points, eg $\frac{60-44}{2}$ or 2×4	M1	
	8	A1	
	Additional Guidance		
	(60 ÷ 5 =) 12		M0A0

Q	Answer	Mark	Comments
18(c)	**Alternative method 1**		
	their 20 + 7 × their 8	M1	oe
	76	A1ft	correct answer or ft their values in (a) and (b)
	Alternative method 2		
	60 + 2 × their 8	M1	oe
	76	A1ft	correct answer or ft their values in (b)
	Additional Guidance		
	For Alt 2, they may read off any cost for n minutes (from 1 to 5) and add on $(7 - n)$ × their (b) for M1. A1 or A1ft may follow from their working		

Q	Answer	Mark	Comments
19	Puts toffees in order or orders the numbers to at least the sixth number from either end 47, 49, 49, 50, 50, 51 or 57, 55, 55, 55, 54, 51 or gives median of toffees as 51	M1	allow one error or omission on an attempt at a full list
	Identifies 48 and 50 for mints or gives median of mints as 49	M1	eg circled in list or vertical line between 48 and 50
	51 for toffees and 49 for mints	A1	with no errors seen
	Yes for toffees and No for mints	A1ft	correct decision for their values with M1M1 awarded and a single median given for each
	Additional Guidance		
	Ignore modes or means if medians also given, but modes or means only scores zero		
	Beware of medians coming from only using the distinct values: 47, 49, 50, **51**, 54, 55, 57 46, 47, 48 **I** 50, 53, 54		M0
	For the A1ft, the median may be a decimal eg 47, 49, 49, 50, 50, 51, 51, 54, 55, 55, 57 median = 50.5 48 + 50 = 98, 98 ÷ 2 = 44 Yes for toffees, No for mints		M1M1A0A1ft

Q	Answer	Mark	Comments
20	30 or 80 or 10	M1	
	$\frac{30+80}{10}$ or $\frac{110}{10}$ or $\frac{112.62}{10}$ or 11.262	M1dep	
	11 with 30, 80 and 10 seen	A1	
	Additional Guidance		
	11 with no working		M0M0A0

Q	Answer	Mark	Comments
21	b	B1	

Q	Answer	Mark	Comments
22(a)	No and correct reason	B1	eg it should be $8a$ two minuses make it $+ 2a$
	Additional Guidance		
	No and $8a - 7b$		B1
	No and $4a$ should be $8a$		B1
	No and two minuses make it plus		B1
	No and it should be $+ 2a$		B1
	No and $4a$ is wrong		B1
	No and $8a + 7b$		B0

Q	Answer	Mark	Comments
22(b)	Not correct for Add 3 and 5 and Correct for Add 2 and 7	B1	
	Additional Guidance		
	Accept any clear indication of their answer		

Q	Answer	Mark	Comments
22(c)	1 or –1	B1	oe fraction eg $\frac{10}{10}$
	Additional Guidance		
	Embedded answer eg $10 \times 1 = 10 \div 1$		B0
	1 and –1 or ± 1		B1

<table>
<tr><th>Question</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="5">23</td><td>$\frac{7}{5}$ or $1\frac{2}{5}$</td><td>B2</td><td>B1
28 and 20
or
$2\frac{1}{3}$ and $1\frac{2}{3}$ oe mixed numbers or fractions with common denominator
or
correct unsimplified fraction or mixed number eg $\frac{14}{10}$ or $1\frac{8}{20}$
or
correct simplification of a fraction where at least one of the values is 28 or 20 and the other is not 12
SC1 $\frac{5}{7}$</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="2">Allow a fractional numerator and/or denominator in a correct fraction
eg $\frac{2\frac{1}{3}}{1\frac{8}{12}}$ or $\frac{\frac{28}{12}}{\frac{5}{3}}$</td><td>B1</td></tr>
<tr><td colspan="2">$\frac{2.4}{1.8}$ simplified to $\frac{4}{3}$</td><td>B0</td></tr>
<tr><td colspan="2">Ignore an attempt to convert $\frac{7}{5}$ to an improper fraction
eg $\frac{7}{5} = 1\frac{2}{7}$ on the answer line</td><td>B2
B0</td></tr>
<tr><td colspan="2">7 : 5 with no working worthy of B1</td><td>B0</td></tr>
</table>

Q	Answer	Mark	Comments
24	No and correct reason	B1	eg it will still only take 4 hours it will be the same (time) they could do 48 m^2 in that time even though it's twice the area there are twice as many people
	Additional Guidance		
	No and there are two people so it won't take as long (as 8h)		B1
	No and it'll be quicker (than 8h)		B1
	No and they'll do 12 m^2 each		B1
	No and it'll be the same area each		B1
	No and it'll be the same area		B0
	No and it depends on how fast Steve works		B0
	No and it'll take 6h		B0
	No and it might take them less time		B0

Question	Answer	Mark	Comments
25(a)	$5x - 3x$ or $2x$ or $3x - 5x$ or $-2x$ or $15 - 6$ or 9 or $6 - 15$ or -9	M1	may be seen as an annotation to the given inequality eg -6 written under $+15$
	$2x > 9$ or $-9 > -2x$ or 4.5 or $\frac{9}{2}$ or $4\frac{1}{2}$	A1	implied by correct answer
	$x > 4.5$ or $x > \frac{9}{2}$ or $x > 4\frac{1}{2}$	A1ft	ft solution of inequality of the form $2x > k$ where k is a number or $m > -2x$ where m is a number or $ax > 9$ where a is an integer not equal to 1 or $-9 > bx$ where b is an integer not equal to 1

Additional Guidance	
In all cases accept the inequality written correctly in reverse order For example, for $2x > 9$ accept $9 < 2x$	
$4.5 < x$	M1A1A1
$2x > 21$, $x > 10.5$	M1A0A1ft
$8x > 9$, $x > 1.125$	M1A0A1ft
Do not allow a correct answer in working followed by an incorrect answer on the answer line eg $x > \frac{9}{2}$ in working with 4.5 on the answer line	M1A1A0
Do not allow the correct answer with another answer eg $x > 4.5$ and $x = 4.5$ on the answer line	M1A1A0

Question	Answer	Mark	Comments
25(b)	$2 \leqslant x < 5$ or $5 > x \geqslant 2$	B2	any letter B1 $2 \leqslant x$ or $x \geqslant 2$ or $x < 5$ or $5 > x$ SC1 $2 < x \leqslant 5$ or $5 \geqslant x > 2$
	Additional Guidance		
	$2 \leqslant x$ and $x < 5$		B1
	$2 \leqslant x$ and $x > 5$		B1
	$2 \leqslant x > 5$		B1
	$2 \leqslant x \leqslant 5$		B1
	$2 \leqslant x \leqslant 4$		B1
	$2 < x < 5$		B1
	$2 \geqslant x > 5$		B0
	$2 \leqslant 5$		B0

Question	Answer	Mark	Comments
26	(4, 16)	B2	may be on diagram B1 one correct coordinate SC1 (16, 4)
	Additional Guidance		
	B1 may be scored from 4 at the vertex vertically below *Q* or from 16 at the vertex vertically above *P* if not contradicted by the answer		

Question	Answer	Mark	Comments
27(a)	2×10^3 or 7×10^4 or 140 000 000	M1	oe correct value not in standard form eg 14×10^7
	1.4×10^8	A1	SC1 Correctly converts an ordinary number with at least four digits to standard form
	Additional Guidance		
	Condone extra zeros on 1.4 eg $1.40\,000\,000 \times 10^8$		M1A1
	1.4×10^8 from 1 400 000 000		M0A0
	2×10^3 is implied by $(2 \times 7) \times (10^3 \times 10^a)$ 7×10^4 is implied by $(2 \times 7) \times (10^b \times 10^4)$		M1
	1 400 000 000 converted to 1.4×10^9		SC1

Question	Answer	Mark	Comments
27(b)	180 or 0.3 or $(1.8 \div 3 =)$ 0.6 or $(10^2 \div 10^{-1} =) 10^3$ or calculation which would have the outcome 600 or correct value not given as an ordinary number	M1	eg 1800 ÷ 3 eg 6×10^2
	600	A1	
	Additional Guidance		
	1800 ÷ 0.3 = 600 scores M1 only, as 600 comes from incorrect working		M1A0
	1800 ÷ 30 = 600 scores zero, as 600 comes from incorrect working		M0A0

Question	Answer	Mark	Comments
28	62 ÷ 2 or 62 × 0.5 or 31	M1	oe eg 62 ÷ 60 × 30
	their 31 – 25 or 6	M1	their 31 must be > 25
	their 6 × 3 or 18 or their 6 × 4 or 24	M1dep	dep on 2nd M1
	49	A1	
	Additional Guidance		
	49 from correct working, but a different answer given		M3A0

Question	Answer	Mark	Comments
29	$y = \frac{k}{x}$	B1	

Question	Answer	Mark	Comments
30	200 written as a product of factors where at least one factor is prime	M1	eg 2 and 100 or 2×10^2 or $200 \div 5 = 40$ may be on a factor tree or repeated division allow one strand to be incorrect if a previous value completes the product eg 10×20 followed by $5 \times 2 \times 5 \times 6$ implies $5 \times 2 \times 20$ for M1
	2 and 2 and 2 and 5 and 5	A1	may be on a factor tree or repeated division
	$2^3 \times 5^2$ or $5^2 \times 2^3$	A1	
	Additional Guidance		
	Allow any number of 1s included as factors up to M1A1 only		
	M1 may be awarded for correct work with no or incorrect answer, even if this is seen among multiple attempts		
	$1 \times 2^3 \times 5^2$		M1A1A0
	$2^3.5^2$ or $2^3 \cdot 5^2$ or $2^3 5^2$ or $2^3,5^2$		M1A1A1
	$2 + 2 + 2 + 5 + 5$		M1A1A0
	$2^3 + 5^2$		M1A1A0
	$2 \times 2 \times 2 \times 5 \times 5$ and $2^3 \times 5^2$ on answer line but $2 \times 2 \times 2 \times 5 \times 5 = 2^3 \times 5^2$ on answer line		M1A1A0 M1M1A1
	$2^3 \times 5^2 = 10^5$		M1A1A0
	$2^3 \times 5^2 = 200$		M1A1A1
	8×25 with no prime factorisation		M0A0A0

Question	Answer	Mark	Comments
31	**Alternative method 1**		
	$\sin 30 = \frac{x}{10}$ or $(x =)\ 10 \sin 30$	M1	oe eg $\frac{x}{\sin 30} = \frac{10}{\sin 90}$
	$\sin 30 = 0.5$	M1	oe may be seen in a table $0.5 = \frac{x}{10}$ oe scores M1M1
	5	A1	
	Alternative method 2		
	Correct trigonometric method to show that the length of the missing side is $5\sqrt{3}$	M1	oe
	$\sqrt{(5\sqrt{3})^2 + x^2} = 10$	M1dep	oe
	5	A1	
	Additional Guidance		
	Accept use of cos 60 instead of sin 30		

Question	Answer	Mark	Comments
32	$(x + a)(x + b)$	M1	where $a + b = 7$ or $ab = 10$
	$(x + 2)(x + 5)$	A1	
	Additional Guidance		
	Ignore attempts to solve their $(x + a)(x + b) = 0$ for M1A0 or M1A1		
	Condone missing final bracket		
	Ignore a check of a correct solution (multiplying out or similar)		