Examiner only

5. *(a)* In Kingstone, the mean daily snowfall for a week was 5·6 cm.
What would the mean daily snowfall have been if it had snowed 2 cm more on each day?

$5·6 + 2 = 7·6$ ✓

B1

[1]

(b) In Greyfield, the snowfall for each of 10 days was measured.
The results are summarised in the table below.

Daily snowfall, *s*, in cm		Number of days	
4·5 ⩽ s < 5·5	5	4	20
5·5 ⩽ s < 6·5	6	2	12
6·5 ⩽ s < 7·5	7	1	7
7·5 ⩽ s < 8·5	8	1	8
8·5 ⩽ s < 9·5	9	2	18

B1

M1

(i) Calculate an estimate for the mean daily snowfall for the 10 days.

$65 (÷5) = 13$

M0
A0

[4]

(ii) State the modal class.

Modal class ...... 4 ......

B0

[1]

(iii) Write down the class in which the median lies.

$5·5$ to $6·5$

B1

[1]

④

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(b)

3·4 cm

x
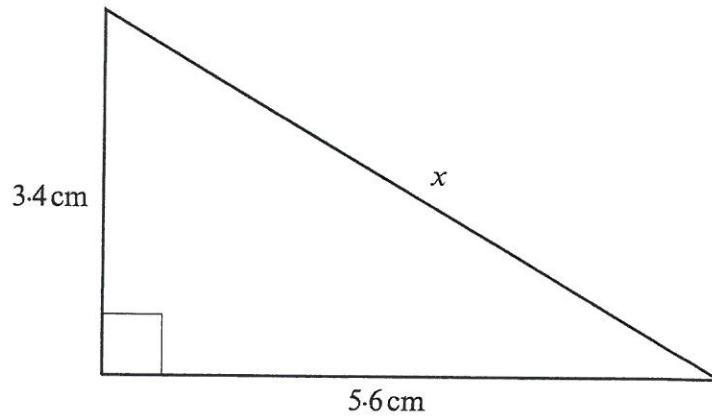
5·6 cm

Diagram not drawn to scale

(i)   Calculate the length of the side marked x in the diagram above.
      Give your answer correct to 2 significant figures.

$x^2 = 3.4^2 + 5.6^2$

$x^2 = 42.92$

[4]

(ii) Calculate the area of the triangle.

$\frac{1}{2} \times 3.4 \times 5.6 = 19.04$

[2]

M)
A)
AO
AO

M)
AO

(3)

5. A community hall has a large number of rectangular tables and a large number of chairs.
The tables can seat up to 3 people along each of the longer sides and 1 person at each end.

A street party is being organised using the community hall's tables and chairs.
Tables are joined and placed in a long straight line.
Tables meet edge to edge to form the line.

(a) *You will be assessed on the quality of your written communication in this part of the question.*
What is the least number of tables needed to seat 164 people?
You must show all your working and explain how you arrive at your answer.

1 table 8 people   2 tables 14 people   3 tables 20 people   J1

M1
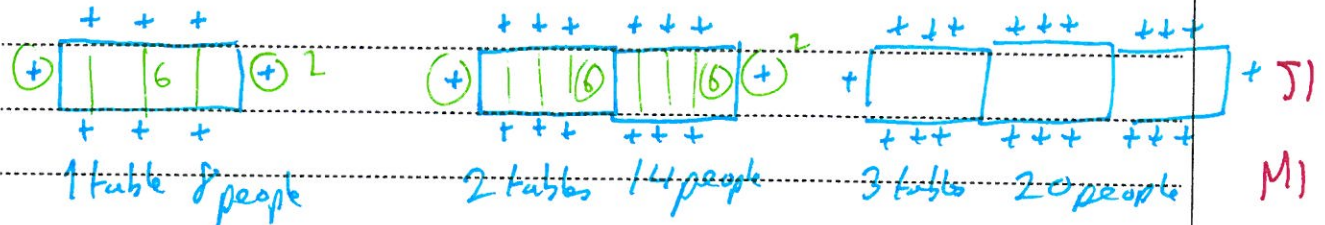
So I can see that however many tables there are 6 times as Many people, plus the two on each end

So 164 people, two will sit on the ends. I will then Need 162 people sitting along 6 per table

$162 \div 6 = 27$ tables

M1

A1

QWC
2

[6]

(b) There are *n* people sitting around a straight line of tables.
There are no empty seats.
Write an expression in terms of *n* for the least number of tables needed to seat these people.

n people − 2 off for ends then divide by 6

$n - 2 \div 6$

[3]

PAPER 1 Higher Tier	Marks	FINAL MARK SCHEME Comments
5.(a) Strategy, shorter edges meeting (accept a diagram) (Showing) 6 on longer sides (2 lots of 3) and 1 on each end OR idea end tables seat 7 people and middle table seat 6 people (Number of tables is) $(164 - 2) \div 6$ OR 2 correct trials with equivalent "×6 + 2" 27 (tables)	S1 M1 M1 A1	May be implied in later working that this is the arrangement Accept intention, not about notation. For a complete correct method that could lead to 27 tables SC2 for 79 or 54, or SC1 for $(164 - 6)/2$ *Alternative: Any 3 multiples of 6 shown or 3 terms of a sequence going up in 6s, or 164/6 or 164÷6* *S1* *$27 \times 6 = 162$ OR 27 remainder 2 OR 27.3(3..) M1 (this implies S1 also)* *$162 + 2 = 164$ (seen or implied) M1* *27 (tables) A1* *An answer of 27 from working '27 remainder 2' or '27.3(3..)' must be confirmed in order to award the final M1, A1 (i.e. remainder justified), otherwise SC1 instead*
QWC0 for answer only QWC2: Candidates will be expected to • present work clearly, maybe with diagrams and words explaining process or steps AND • make few if any mistakes in mathematical form, spelling, punctuation and grammar and include units in their final answer QWC1: Candidates will be expected to • present work clearly, maybe with diagrams and words explaining process or steps OR • make few if any mistakes in mathematical form, spelling, punctuation and grammar and include units in their final answer	QWC 2	*An answer of 27 (tables) without working is awarded SC3* QWC2 Presents relevant material in a coherent and logical manner, using acceptable mathematical form, and with few if any errors in spelling, punctuation and grammar. QWC1 Presents relevant material in a coherent and logical manner but with some errors in use of mathematical form, spelling, punctuation or grammar OR evident weaknesses in organisation of material but using acceptable mathematical form, with few if any errors in spelling, punctuation and grammar. QWC0 Evident weaknesses in organisation of material, and errors in use of mathematical form, spelling, punctuation or grammar.
(b) $(n - 2) \div 6$ OR $(n - 2)/6$ OR equivalent	B3 9	*FT misunderstanding longer edges joined leading to $(n - 6) \div 2$* B2 for $n-2 \div 6$ or $n - 2/6$ or $-2 \div 6$ B1 for -2 or $\div 6$ in an expression or $n = 6 \times tables + 2$, or $n = 6 \times t + 2$ B0 for $\times 6 + 2$ or $n \times 6 + 2$
6. Realising could be 2+2, 1+3, 3+1 Realising 36 different outcomes OR sight of $1/6 \times 1/6$ OR product of 2 terms both with denominators of 6 seen OR sight of a denominator of 36 3/36 or equivalent	B1 B1 B1 3	May be within a sample space diagram, e.g. sight of two-way table with three 4s shown, or the appropriate additions Maybe shown in a sample space diagram with indication of 36, must be stated not implied Ignore incorrect cancelling