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Cambridge Assessment International Education

Cambridge International AS & A Level

INFORMATION TECHNOLOGY **9626/02**

Paper 2 Practical **February/March 2023**

MARK SCHEME

Maximum Mark: 90

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the February/March 2023 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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Task	Answer	Marks
1	Column A right aligned	1
	Columns B centre aligned	1
	Column C left aligned	1
	Data entry 100% accurate	1
	Correct merged cells	1
	… with right aligned, red background and white text	1
	Row 1 36 point sans-serif font	1
	Rows 2,6,9,12 and 15 half height of row 3	1

Task	Answer	Marks
2	Specified worksheet added to workbook	1
	… with short and meaningful sheet name	1
	Column C has concatenated data from columns A and B	1
	… with space × space between	1

Task	Answer	Marks
3	B5 Validation rule restricts to either the letter Y or N	1
	… in upper or lower case	1
	… no drop-down menu	1
	B5 Validation rule allows a blank cell	1
	B5 Appropriate input message	1
	B5 Appropriate error message	1

Task	Answer	Marks
4	B7 Validation rule restricts to list …	1
	… from workbook sizes	1
	… correct cell range $C$2:$C$24	1

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Task	Answer	Marks
5	B8 Validation rule restricts to list …	1
	… Landscape,Portrait	1
	… must not be blank	1

Task	Answer	Marks
6	B13 Checks cell B8 for "Landscape"	1
	B13 If B8 is landscape then look up longest side …	1
	… from sizes sheet …	1
	… else looks up shortest side from sizes sheet	1
	B14 Checks cell B8 for "Landscape"	1
	B14 If B8 is landscape then look up shortest side …	1
	… from sizes sheet …	1
	… else looks up longest side from sizes sheet	1

Task	Answer	Marks
7	B16 =ROUNDUP(number of tiles ,0) …	1
	Number of tiles is B16 Total calc * 1.05	1
	B16 Total calc =ROUNDUP(horizontal calc ,0) …	1
	… *ROUNDUP(vertical calc ,0)	1
	Horizontal calc is 100* …	1
	… B3 …	1
	… /B13	1
	Vertical calc is 100* …	1
	… B4 …	1
	… /B14	1

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Task	Answer	Marks
8	B17 =ROUNDUP(number of tiles ,0) …	1
	Number of tiles is B17 Total calc * 1.1	1
	B17 Total calc is B16 Total calc (using same method)	1
	-ROUNDDOWN(… ,0)	1
	100*B10/B13	1
	*ROUNDDOWN(… ,0)	1
	100*B11/B14	1

Task	Answer	Marks
9	Conditional formatting applied to range $A$8:B	1
	… with Formula …	1
	… =$B$13=$B$14	1
	… Formatted with same white foreground and background …	1
	Conditional formatting applied to range $A$16:$B$16	1
	… with Formula =$B$5="Y"	1
	… Formatted with same colour foreground and background	1
	Conditional formatting applied to range $A$10:$C$12 and $A$17:$B$17	1
	… with Formula =$B$5="N"	1
	… Formatted with same colour foreground and background	1

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Task	Answer	Marks
10	TILES2 - Data entry correct	1
	… number of tiles 51	1
	TILES2 - Cells A10:C11 not visible	1
	TILES2 - Cells A17 and B17 not visible	1
	TILES3 - Data entry correct	1
	… number of tiles 74	1
	TILES3 - Cells A8 and B8 not visible	1
	TILES4 - Data entry correct	1
	… number of tiles 68	1
	TILES4 - Cells A16 and B16 not visible	1
	TILES5 - Data entry correct	1
	… number of tiles 62	1

Task	Answer	Marks
11	m23tiler1 spliced with m23tiler2	1
	Appropriate transition between two parts	1
	All sound removed from the spliced clip	1
	Only first 41 seconds remain	1
	New soundtrack added to clip …	1
	… same length as video	1
	… with appropriate fade out.	1
	Clip saved in mp4 format as tiler_ZZ999_9999.mp4 …	1
	… with image ratio 16:9 and resolution of 854 x 480	1

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Task	Answer	Marks
12	0 seconds First frame of video copied …	**1**
	… set as title background for 8 seconds	**1**
	Tracy's Tilers – 100% accurate	**1**
	… top right corner and clearly visible	**1**
	… serif font	**1**
	… good contrast to background	**1**
	4 seconds:	**1**
	Add to previous text Window reveals as new line	**1**
	Logo inserted in top left corner	**1**
	8 seconds: Video clip tiler with audio runs	**1**

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	A	B	C
1	Tile Calculator		
2			
3	Length of wall	3	metres
4	Height of wall	2	metres
5	Is there a window?		
6			
7	Tile size		
8	Tile orientation		
9			
10	Length of window	1	metres
11	Height of window	1	metres
12			
13	Horizontal tile size		centimetres
14	Vertical tile size		centimetres
15			
16	Number of tiles - no window		
17	Number of tiles - with window		
18			
19	* Candidate ZZ999 9999		

Tiles1 Values

Column A right aligned	1 mark
Column B centre aligned	1 mark
Column C left aligned	1 mark
Data entry 100% accurate	1 mark
Correct merged cells	1 mark
… with right aligned, red background and white text	1 mark
Row 1 36 point sans-serif font	1 mark
Rows 2,6,9,12 & 15 half height of row 3	1 mark

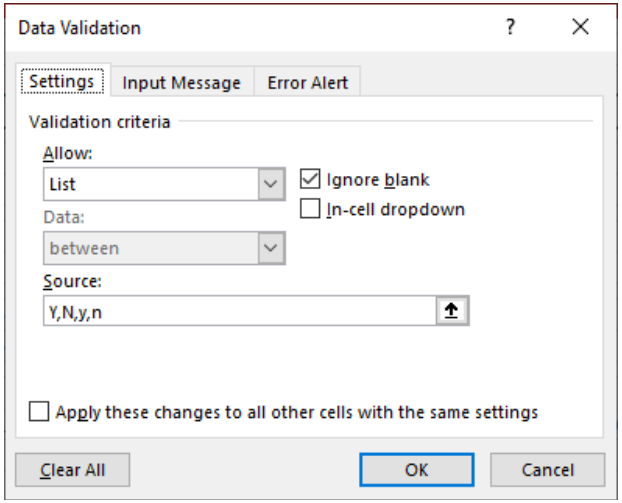
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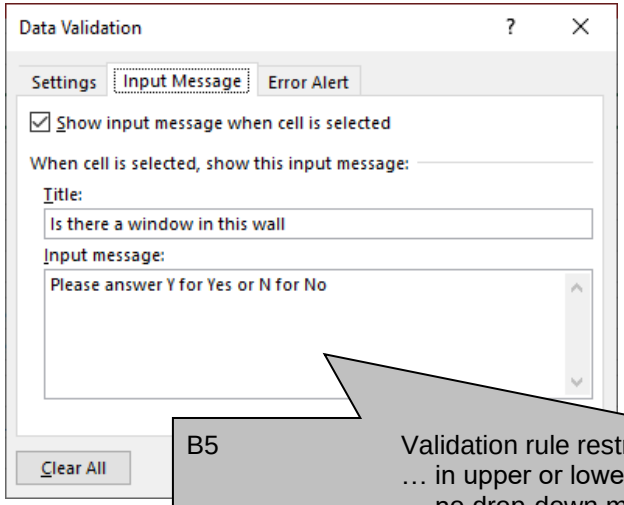
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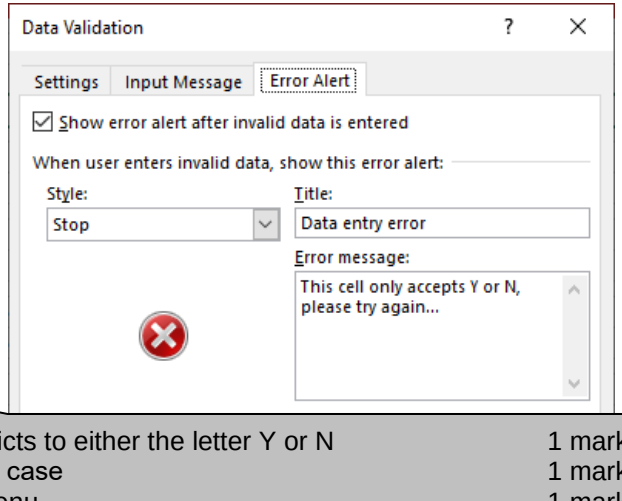
	A	B	C
1	Length	Width	Size
2	120	120	120 x 120
3	120	60	120 x 60
4	120	30	120 x 30
5	120	20	120 x 20
6	90	90	90 x 90
7	90	60	90 x 60
8	90	45	90 x 45
9	90	30	90 x 30
10	90	22.5	90 x 22.5
11	80	80	80 x 80
12	60	60	60 x 60
13	60	30	60 x 30
14	60	20	60 x 20
15	60	15	60 x 15
16	60	10	60 x 10
17	60	5	60 x 5
18	50	25	50 x 25
19	45	45	45 x 45
20	45	22.5	45 x 22.5
21	30	30	30 x 30
22	20	20	20 x 20
23	15	1875	15 x 1875
24	7.5	3.75	7.5 x 3.75
25	All sizes are in centimetres		

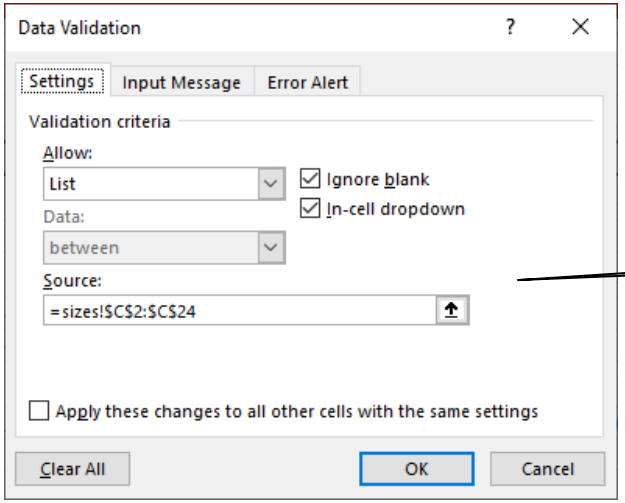
Tiles | **Sizes**

Workbook	2 worksheet in workbook	1 mark
	… with short and meaningful sheet name	1 mark
	Column C has concatenated data from columns A and B	1 mark
	… with space x space between	1 mark



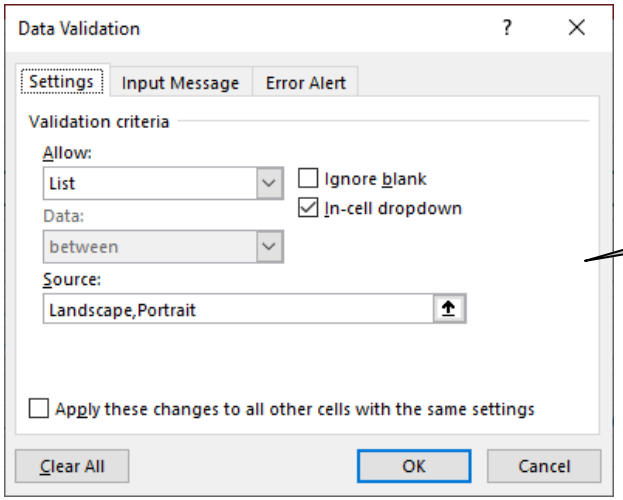






B5	Validation rule restricts to either the letter Y or N	1 mark
	… in upper or lower case	1 mark
	… no drop-down menu	1 mark
	Validation rule allows a blank cell	1 mark
	Appropriate input message	1 mark
	Appropriate error message	1 mark

B7	Validation rule restricts to list …	1 mark
	… from workbook sizes	1 mark
	… correct cell range $C$2:$C$24	1 mark



B8	Validation rule restricts to list …	1 mark
	… Landscape,Portrait	1 mark
	… must not be blank	1 mark

	B
1	Tile Calcul
3	5
4	2.4
5	y
7	60 x 30
8	Portrait
10	1
11	1.2
13	=IF(B8="Landscape",MAX(XLOOKUP(B7,sizes!C2:C24,sizes!A2:A24),XLOOKUP(B7,sizes!C2:C24,sizes!B2:B24)),MIN(XLOOKUP(B7,sizes!C2:C24,sizes!A2:A24),XLOOKUP(B7,sizes!C2:C24,sizes!B2:B24)))
14	=IF(B8="Landscape",MIN(XLOOKUP(B7,sizes!C2:C24,sizes!A2:A24),XLOOKUP(B7,sizes!C2:C24,sizes!B2:B24)),MAX(XLOOKUP(B7,sizes!C2:C24,sizes!A2:A24),XLOOKUP(B7,sizes!C2:C24,sizes!B2:B24)))
16	=ROUNDUP(ROUNDUP(100*B3/B13,0)*ROUNDUP(100*B4/B14,0)*1.05,0)
17	=ROUNDUP(ROUNDUP(100*B3/B13,0)*ROUNDUP(100*B4/B14,0)-ROUNDDOWN(100*B10/B13,0)*ROUNDDOWN(100*B11/B14,0)*1.1,0)
18	
19	

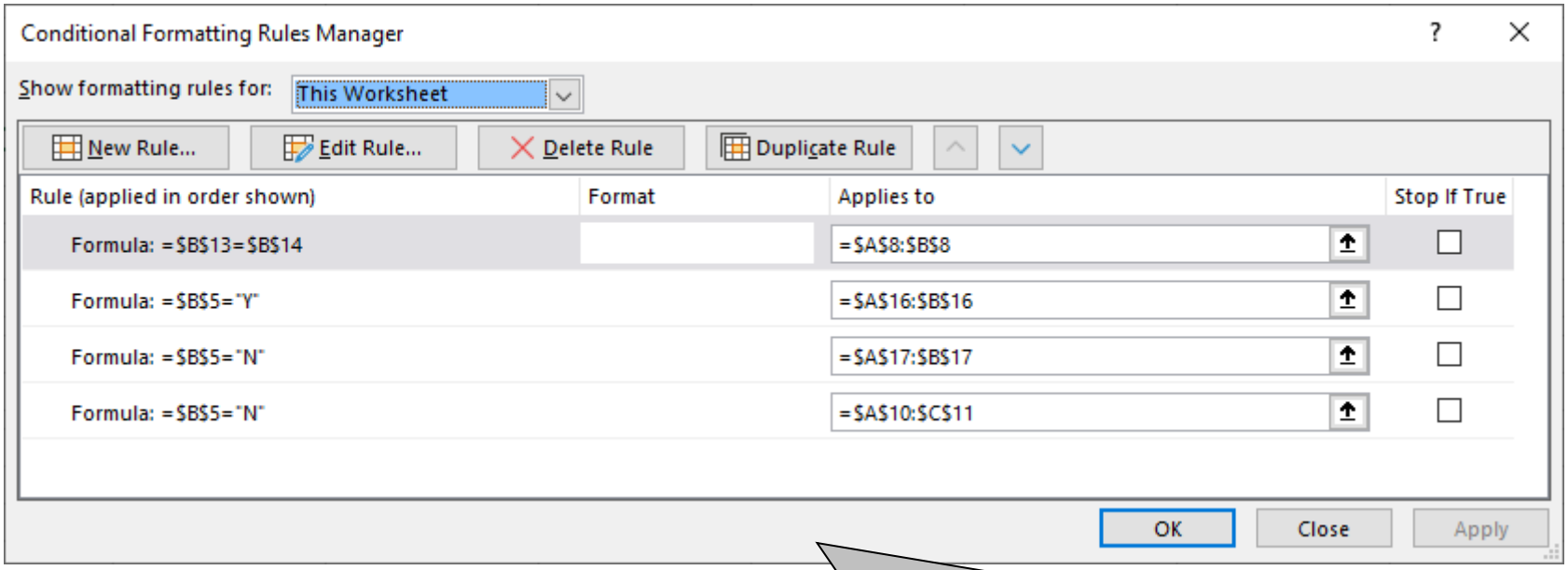
B13	Checks cell B8 for "Landscape"…	1 mark
	If B8 is landscape then look up longest side …	1 mark
	… from sizes sheet …	1 mark
	… else looks up shortest side from sizes sheet	1 mark
B14	Checks cell B8 for "Landscape"…	1 mark
	If B8 is landscape then look up shortest side …	1 mark
	… from sizes sheet …	1 mark
	… else looks up longest side from sizes sheet	1 mark
B16	=ROUNDUP(number of tiles ,0) …	1 mark
	Number of tiles is B16 Total calc * 1.05	1 mark
	Total calc =ROUNDUP(horizontal calc ,0) …	1 mark
	… *ROUNDUP(vertical calc ,0)	1 mark
	Horizontal calc is 100* …	1 mark
	… B3 …	1 mark
	… /B13	1 mark
	Vertical calc is 100* …	1 mark
	… B4 …	1 mark
	… /B14	1 mark

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	B
1	Tile Calcul
3	5
4	2.4
5	y
7	60 x 30
8	Portrait
10	1
11	1.2
13	=IF(B8="Landscape",MAX(XLOOKUP(B7,sizes!C2:C24,sizes!A2:A24),XLOOKUP(B7,sizes!C2:C24,sizes!B2:B24)),MIN(XLOOKUP(B7,sizes!C2:C24,sizes!A2:A24),XLOOKUP(B7,sizes!C2:C24,sizes!B2:B24)))
14	=IF(B8="Landscape",MIN(XLOOKUP(B7,sizes!C2:C24,sizes!A2:A24),XLOOKUP(B7,sizes!C2:C24,sizes!B2:B24)),MAX(XLOOKUP(B7,sizes!C2:C24,sizes!A2:A24),XLOOKUP(B7,sizes!C2:C24,sizes!B2:B24)))
16	=ROUNDUP(ROUNDUP(100*B3/B13,0)*ROUNDUP(100*B4/B14,0)*1.05,0)
17	=ROUNDUP(ROUNDUP(100*B3/B13,0)*ROUNDUP(100*B4/B14,0)-ROUNDDOWN(100*B10/B13,0)*ROUNDDOWN(100*B11/B14,0)*1.1,0)
18	
19	

B17	=ROUNDUP(number of tiles ,0) …	1 mark
	Number of tiles is B17 Total calc * 1.1	1 mark
	Total calc is B16 Total calc (using same method)	1 mark
	-ROUNDDOWN(… ,0)	1 mark
	100*B10/B13	1 mark
	*ROUNDDOWN(… ,0)	1 mark
	100*B11/B14	1 mark

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Blanking cells	Conditional formatting applied to range $A$8:$B$8	1 mark
	… with Formula …	1 mark
	… =$B$13=$B$14	1 mark
	… Formatted with white colour foreground and background …	1 mark
	Conditional formatting applied to range $A$16:$B$16	1 mark
	… with Formula =$B$5="Y"	1 mark
	… Formatted with same colour foreground and background	1 mark
	Conditional formatting applied to range $A$10:$C$11 and $A$17:$B$17	1 mark
	… with Formula =$B$5="N"	1 mark
	… Formatted with same colour foreground and background	1 mark

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	A	B	C
1	Tile Calculator		
3	Length of wall	3	metres
4	Height of wall	2	metres
5	Is there a window?	n	
7	Tile size	50 x 25	
8	Tile orientation	Landscape	
10			
11			
13	Horizontal tile size	50	centimetres
14	Vertical tile size	25	centimetres
16	Number of tiles - no window	51	
17			
18			
19	A Candidate ZZ999 9999		

Tiles2	Data entry correct	1 mark
	… number of tiles 51	1 mark
	Cells A10:C11 not visible	1 mark
	Cells A17 and B17 not visible	1 mark

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	A	B	C
1	**Tile Calculator**		
3	Length of wall	3	metres
4	Height of wall	2	metres
5	Is there a window?	n	
7	Tile size	30 x 30	
8			
10			
11			
13	Horizontal tile size	30	centimetres
14	Vertical tile size	30	centimetres
16	Number of tiles - no window	74	
17			
18			
19	A Candidate ZZ999 9999		

Tiles3	Data entry correct	1 mark
	… number of tiles 74	1 mark
	Cells A8 and B8 not visible	1 mark

	A	B	C
1	**Tile Calculator**		
3	What is the length of the wall?	5	metres
4	What is the height of the wall?	2.4	metres
5	Is there a window?	y	
7	What size of tile are you using?	60 x 30	
8	What is the orientation of the tiles?	Landscape	
10	Length of window	1	metres
11	Height of window	1.2	metres
13	Horizontal tile size	60	centimetres
14	Vertical tile size	30	centimetres
16			
17	Number of tiles - with window	68	
18			
19	A Candidate ZZ999 9999		

Tiles4	Data entry correct	1 mark
	… number of tiles 68	1 mark
	Cells A16 and B16 not visible	1 mark

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	A	B	C
1	**Tile Calculator**		
3	Length of wall	5	metres
4	Height of wall	2.4	metres
5	Is there a window?	y	
7	Tile size	60 x 30	
8	Tile orientation	Portrait	
10	Length of window	1	metres
11	Height of window	1.2	metres
13	Horizontal tile size	30	centimetres
14	Vertical tile size	60	centimetres
16			
17	Number of tiles - with window	62	
18			
19	A Candidate ZZ999 9999		

Tiles5	Data entry correct	1 mark
	… number of tiles 62	1 mark

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Video	m23tiler1 spliced with m23tiler2	1 mark
	Appropriate transition between two parts	1 mark
	All sound removed from the spliced clip	1 mark
	Only first 41 seconds remain	1 mark
Audio	New soundtrack added to clip …	1 mark
	… same length as video	1 mark
	… with appropriate fade out.	1 mark
Video	Clip saved in mp4 format as Tiler_ZZ999_9999.mp4 …	1 mark
	… with aspect ratio 16:9 and resolution of 854 x 480	1 mark
0 seconds	First frame of video copied …	1 mark
	… set as title background for 8 seconds	1 mark
	Tracy's Tilers – 100% accurate	1 mark
	… top right corner and clearly visible	1 mark
	… serif font	1 mark
	… good contrast to background	1 mark
4 seconds:		1 mark
	Add to previous text **Window reveals** as new line	1 mark
	Logo inserted in top left corner	1 mark
8 seconds:	Video clip tiler with audio runs	1 mark

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