



# **Cambridge IGCSE™**

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## **INFORMATION AND COMMUNICATION TECHNOLOGY**

**0417/31**

Paper 3 Spreadsheets and Website Authoring

**May/June 2023**

### **MARK SCHEME**

Maximum Mark: 70

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**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 May/June 2023 series for most Cambridge IGCSE, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

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This document consists of **12** printed pages.

**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.

Question	Answer	Marks
1	Footer: File name with no path on left Candidate details on right	2
2	Rows 1 & 13: Correct cells merged and centred Grey background Bold and italic, 16 point  A6:C11: Merged cells Right aligned Wrapped as shown  Row 14: Centre aligned horizontally Centre aligned vertically Wrapping as shown  Cell borders as shown	10
3	Landscape, fully visible with row & column headings	1
4	B3 AVERAGE( ... ) ... B15:B45 B4 AVERAGE( B46:B73) C3 AVERAGE( E15:E45) C4 AVERAGE( E46:E73) D3 AVERAGE( H15:H45) D4 AVERAGE( H46:H73) All 6 =ROUND( ... ,1) for all 6 formulae	8
5	D6 =COUNTIF(C\$15:C\$73,>0") D7 =COUNTIF(F\$15:F\$73,>0") D8 =COUNTIF(I\$15:I\$73,>0")	3
6	D9 =COUNTIF(C15:C73, ...) ,>7.5"	2
7	D10=ROUNDUP( ...,0) AVERAGE(D15:D45)	2
8	=COUNTIF(D15:D45,<5")	1
9	Printout Landscape row & column heads fully visible	1
10	Values 2 Cells A1:D11 only Portrait orientation & single page fully vis No row & column headings	3

Question	Answer	Marks
11	Chart Appropriate chart type Appropriate title Month as category axis with axis title Sunshine plotted with correct values ... on primary value axis with axis title Rainfall plotted with correct calculated values ... on secondary value axis with axis title ... maximum scale set to 100 Appropriate legend, chart easily read, no truncation/overlapping	9
12	CSS: All 4 correct styles selected Using single selector Font-family: Calibri , "Helvetica Neue" in speech marks , sans-serif; Correct CSS syntax with selector { }	6
13	Head section: <head> <title>Weather Data</title> <meta ...> ... charset= ... ... "ISO-8859-1" <meta name= ... > ... "author" ... ... content="TawaraWeb A Candidate" <meta name= ... > ... "description" ... ... content="Weather data for the Tawara region"> <meta name="viewport" ...> ... content="width=device-width ... ..., initial-scale=2.0" <meta name="keywords" ... > ... content=" ... " ... Tawara ... ... comma separator ... weather <base ... > ... Target="_blank" </head>	22

**Evidence document****Layout**

	Rows 1 & 13	Correct cells merged and centred	1 mark
		Grey background	1 mark
		Bold and italic, 16 point	1 mark
A6:C11		Merged cells	1 mark
		Right aligned	1 mark
Row 11		<b>Only</b> row 11 wrapped as shown	1 mark
Row 14		Centre aligned horizontally	1 mark
		Centre aligned vertically	1 mark
		Wrapping as shown	1 mark
All		Cell borders as shown	1 mark
Print		Landscape, fully visible with row & column headings	1 mark

	A	B	C	D	E	F	G	H	I	J	K
<b>Average hours of sunshine per month</b>											
1		Amarta	Bingchen	Chelsmy							
2		January									
3		February									
4											
5											
6		Number of days with rain in Amarta									
7		Number of days with rain in Bingchen									
8		Number of days with rain in Chelsmy									
9		Number of days with heavy rain in Amarta									
10		Average wind speed in Amarta in January									
11		Number of days with a wind speed of less than 5 knots in Amarta in January									
12											
13	<b>Town</b>	<b>Amarta</b>			<b>Bingchen</b>			<b>Chelsmy</b>			
14	Date	Sunshine (hours)	Rainfall (mm)	Wind speed (knots)	Sunshine (hours)	Rainfall (mm)	Wind speed (knots)	Sunshine (hours)	Rainfall (mm)	Wind speed (knots)	
15	1st January 2023	4.224	6.86	13	3.246	5.36	19	2.109	0.5	10	
16	2nd January 2023	0.479	0	20	3.212	0	23	4.456	0	16	
17	3rd January 2023	4.748	0	20	3.964	9.88	18	4.019	2.97	0	
18	4th January 2023	3.013	0	4	3.256	1.6	16	1.827	3.52	18	
19	5th January 2023	4.848	5.69	21	2.639	0	23	0.716	0	4	
20	6th January 2023	4.784	0	24	1.236	0	16	2.611	0	8	
21	7th January 2023	1.701	8.04	23	1.735	0	16	2.723	5.8	0	
22	8th January 2023	0.773	6.42	13	2.047	3.88	29	4.144	4.38	13	
23	9th January 2023	4.524	0	11	4.225	0	28	2.428	0	11	
24	10th January 2023	2.801	6.59	8	3.380	0	2	4.625	0	2	
25	11th January 2023	0.853	3.89	3	1.904	4.29	6	1.539	0	12	
26	12th January 2023	2.937	7.49	0	0.072	0	26	4.239	9.66	10	
27	13th January 2023	0.209	0.08	20	3.013	2.09	9	2.472	0	15	
28	14th January 2023	3.102	0	5	1.885	0	20	1.184	3.44	10	
29	15th January 2023	2.569	0	27	2.34	0	12	0.266	0	8	

A	B	C	D	E	F	G	H	I	J
30	16th January 2023	1.744	2.75	23	3.019	3.61	2	2.679	0
31	17th January 2023	2.545	0	18	3.525	5.29	6	3.58	3.73
32	18th January 2023	3.717	0	16	2.755	7.08	27	1.767	5.07
33	19th January 2023	0.309	8.08	4	4.112	0	20	2.596	9.26
34	20th January 2023	1.768	0	5	4.289	0	25	1.93	2.82
35	21st January 2023	0.952	5.14	11	6.23	0	20	1.745	0
36	22nd January 2023	1.576	3.24	28	0.743	0	8	4.535	0.05
37	23rd January 2023	3.365	1.8	22	4.303	2.84	3	2.68	0
38	24th January 2023	0.777	0.68	30	3.614	5.32	6	0.747	0.01
39	25th January 2023	3.283	0	7	0.073	0.23	13	4.82	0
40	26th January 2023	3.061	0	0	2.372	0.05	5	3.336	4.2
41	27th January 2023	3.687	2.81	25	4.897	0	13	4.345	1.93
42	28th January 2023	3.645	1.17	17	2.173	6.9	5	3.716	7.16
43	29th January 2023	3.327	3.61	9	2.314	0	25	2.279	4.02
44	30th January 2023	3.976	0	10	1.414	0	5	2.626	8.94
45	31st January 2023	2.665	6.04	23	1.411	0	12	3.343	0
46	1st February 2023	3.648	7.12	27	1.371	0	21	2.281	8.77
47	2nd February 2023	3.327	5.58	18	3.598	0	16	2.389	3.55
48	3rd February 2023	0.775	2.28	30	1.433	2.89	13	4.455	0
49	4th February 2023	0.86	0	29	0.381	0	29	2.737	8.21
50	5th February 2023	2.218	8.53	2	0.429	0	14	1.202	7.82
51	6th February 2023	4.163	0	26	1.787	3.5	16	0.418	8.5
52	7th February 2023	3.909	0	17	3.121	0	4	4.56	8.65
53	8th February 2023	1.531	8.7	21	3.137	0	4	1.285	0
54	9th February 2023	3.785	9.43	13	2.867	6.43	15	4.999	3.52
55	10th February 2023	4.082	7.84	28	4.894	0	8	1.791	9.76
56	11th February 2023	4.927	0	16	2.224	0	1	3.809	1.03
57	12th February 2023	0.661	0.01	15	4.202	0	20	1.614	0
58	13th February 2023	3.076	4.24	2	4.541	0	29	4.03	0
59	14th February 2023	1.524	8.75	7	2.067	6.21	16	0.719	0
60	15th February 2023	4.31	0	10	0.737	0	10	1.712	8.74
61	16th February 2023	3.497	2.02	1	2.118	0	26	0.193	4.58

Weather\_22999\_9999.xlsx

A Candidate\_22999\_9999

A	B	C	D	E	F	G	H	I	J
62	17th February 2023	2.019	0	18	6.105	0	9	2.779	0
63	18th February 2023	4.467	0	7	3.629	9.65	11	2.506	0
64	19th February 2023	1.513	0	23	3.588	0	26	1.334	0.32
65	20th February 2023	4.33	7.56	2	3.692	6.23	30	0.252	0
66	21st February 2023	3.937	0	28	4.498	0	5	1.362	0
67	22nd February 2023	0.73	9.91	3	1.117	2.88	0	4.189	3.91
68	23rd February 2023	0.679	3.1	4	1.858	0	10	0.069	0
69	24th February 2023	8.204	0	18	4.46	8.57	15	2.676	2.74
70	25th February 2023	2.076	7.67	15	1.895	0	9	3.379	0
71	26th February 2023	1.387	6.86	23	3.633	0	29	3.07	4.39
72	27th February 2023	4.278	1.79	19	2.058	8.34	1	1.584	6.86
73	28th February 2023	0.674	0	16	6.117	0	27	4.948	4.31

Weather\_22999\_9999.xlsx

A Candidate\_22999\_9999

Footer

File name with no path on left  
Candidate details on right1 mark  
1 mark

## Formulae

B3	AVERAGE( ... ) ... B15:B45	1 mark 1 mark
B4	AVERAGE( B46:B73)	1 mark
C3	AVERAGE( E15:E45)	1 mark
C4	AVERAGE( E46:E73)	1 mark
D3	AVERAGE( H15:H45)	1 mark
D4	AVERAGE( H46:H73)	1 mark
All 6	=ROUND( ... ,1) for all 6 formulae	1 mark

A	B	C	D	E
<b>Average hours of sunshine per month</b>				
	Amarta	Bingchen	Chehomy	
3 January	=ROUND(AVERAGE(B15:B45),1)	=ROUND(AVERAGE(E15:E45),1)	=ROUND(AVERAGE(H15:H45),1)	
4 February	=ROUND(AVERAGE(B46:B73),1)	=ROUND(AVERAGE(E46:E73),1)	=ROUND(AVERAGE(H46:H73),1)	
6	Number of days with rain in Amarta: =COUNTIF(C15:C73,">0")			
7	Number of days with rain in Bingchen: =COUNTIF(F15:F73,">0")			
8	Number of days with rain in Chehomy: =COUNTIF(G15:G73,">0")			
9	Number of days with heavy rain in Amarta: =COUNTIF(C15:C73,">7.5")			
10	Average wind speed in Amarta in January: =ROUNDUP(AVERAGE(D15:D45),0)			
11	Number of days with a wind speed of less than 5 knots in Amarta in January: =COUNTIF(D15:D45,"<5")			
<b>Amarta</b>				
A	B	C	D	E
Date	Sunshine (hours)	Rainfall (mm)	Wind speed (knots)	Sunshine (hours)
15 1st January 2023	4.224	6.86	13	3.246
16 2nd January 2023	0.479	0	20	3.212
17 3rd January 2023	4.748	0	20	3.964
18 4th January 2023	3.013	0	4	3.256
19 5th January 2023	4.848	5.69	21	2.839
20 6th January 2023	4.784	0	24	1.236
21 7th January 2023	1.701	8.04	23	1.735
22 8th January 2023	0.773	6.42	13	2.047
23 9th January 2023	4.524	0	11	4.225
24 10th January 2023	2.801	6.59	8	3.386
25 11th January 2023	0.853	3.89	3	1.904
26 12th January 2023	2.937	7.49	0	0.072
27 13th January 2023	0.209	0.08	26	3.013
28 14th January 2023	3.102	0	5	1.885

D6	=COUNTIF(C15:C73,">0") ...	1 mark
D7	=COUNTIF(F15:F73,">0")	1 mark
D8	=COUNTIF(I15:I73,">0")	1 mark
D9	=COUNTIF(C15:C73, ...) ... ">7.5"	1 mark
D10	=ROUNDUP( ... ,0) AVERAGE(D15:D45)	1 mark
D11	=COUNTIF(D15:D45,"<5")	1 mark
Formulae p/o	Landscape row & col heads fully visible	1 mark

	A	B	C	D	E
29	13th January 2023	2.569	0	27	2.34
30	14th January 2023	1.344	2.76	23	3.019
31	17th January 2023	2.548	0	18	3.525
32	18th January 2023	3.717	0	16	2.735
33	19th January 2023	0.309	8.08	4	4.112
34	20th January 2023	1.768	0	5	4.289
35	21st January 2023	0.952	3.34	11	0.21
36	22nd January 2023	1.376	3.24	28	0.745
37	23rd January 2023	3.185	1.8	22	4.309
38	24th January 2023	0.77	0.68	30	3.614
39	25th January 2023	3.283	0	7	0.073
40	26th January 2023	3.061	0	0	2.372
41	27th January 2023	2.647	2.81	25	4.897
42	28th January 2023	3.649	1.17	17	2.175
43	29th January 2023	2.427	3.61	9	2.314
44	30th January 2023	2.976	0	10	1.414
45	31st January 2023	2.865	6.04	23	1.411
46	1st February 2023	3.648	7.12	27	1.375
47	2nd February 2023	3.327	5.53	18	3.598
48	3rd February 2023	0.775	2.28	30	1.433
49	4th February 2023	0.86	0	29	0.383
50	5th February 2023	2.238	8.53	2	0.429
51	6th February 2023	4.163	0	26	1.787
52	7th February 2023	3.909	0	17	3.121
53	8th February 2023	1.531	8.7	21	3.337
54	9th February 2023	3.785	9.43	13	2.867
55	10th February 2023	4.082	7.84	24	4.898
56	11th February 2023	4.927	0	16	2.224
57	12th February 2023	0.061	0.01	15	4.202
58	13th February 2023	3.076	4.24	2	4.541
59	14th February 2023	1.524	8.75	7	2.067
60	15th February 2023	4.31	0	10	0.737

Weather\_22999\_9999.xlsx

A Candidate\_22999\_9999

	A	B	C	D	E
61	16th February 2023	3.497	7.02	1	2.138
62	17th February 2023	2.013	0	18	0.105
63	18th February 2023	4.487	0	7	3.829
64	19th February 2023	1.513	0	21	3.546
65	20th February 2023	4.33	7.56	2	3.692
66	21st February 2023	3.937	0	28	4.436
67	22nd February 2023	0.73	9.93	3	1.117
68	23rd February 2023	0.679	3.1	4	1.858
69	24th February 2023	3.204	0	18	4.48
70	25th February 2023	2.076	7.67	19	3.435
71	26th February 2023	1.387	6.86	23	3.633
72	27th February 2023	4.378	1.79	19	2.058
73	28th February 2023	0.474	0	16	0.117

Weather\_22999\_9999.xlsx

A Candidate\_22999\_9999

	F	G	H	I	J
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13	<b>Bingchen</b>		<b>Chelmsley</b>		
	Rainfall (mm)	Wind speed (knots)	Sunshine (hours)	Rainfall (mm)	Wind speed (knots)
14					
15	3.38	19	2.109	0.5	10
16	0	23	4.456	0	10
17	9.88	18	4.019	2.97	0
18	1.6	16	1.827	5.52	18
19	0	23	7.718	0	8
20	0	16	5.611	0	8
21	0	16	2.723	5.8	0
22	1.88	29	4.144	4.38	13
23	0	28	2.428	0	11
24	0	2	4.625	0	2
25	4.29	6	1.539	0	12
26	0	26	4.239	9.66	10
27	2.09	9	2.472	0	15
28	0	20	1.184	5.44	10

Weather\_Z2999\_9999.xlsa

	F	G	H	I	J
29	0	13	6.266	0	8
30	3.61	2	6.679	0	13
31	5.29	6	3.58	3.73	6
32	7.08	27	1.707	5.07	0
33	0	20	2.596	9.26	15
34	0	25	1.95	2.82	7
35	0	30	1.745	0	9
36	0	8	4.535	0.09	6
37	2.04	3	2.68	0	6
38	5.52	6	0.747	0.01	10
39	0.23	13	4.82	0	15
40	0.05	5	3.336	4.2	7
41	0	13	4.245	1.93	4
42	6.9	5	9.736	7.16	18
43	0	25	2.279	4.02	7
44	0	5	2.626	8.94	8
45	0	12	3.743	0	18
46	0	21	2.281	8.77	19
47	0	16	2.389	3.55	9
48	2.89	13	4.455	0	16
49	0	29	2.737	8.21	6
50	0	14	1.202	7.82	15
51	3.5	16	0.418	8.5	0
52	0	4	4.56	8.65	15
53	0	4	1.285	0	18
54	6.43	15	4.999	3.52	19
55	0	8	1.793	9.76	9
56	0	1	3.809	1.03	2
57	0	20	1.634	0	2
58	0	29	4.03	0	15
59	6.21	16	0.719	0	16
60	0	10	1.712	6.78	15

Weather\_Z2999\_9999.xlsx

	F	G	H	I	J
61	0	26	0.193	4.56	15
62	0	9	2.779	0	16
63	9.69	11	2.506	0	2
64	0	26	1.334	0.82	5
65	6.23	10	0.252	0	13
66	0	5	1.362	0	5
67	2.86	0	4.189	3.91	1
68	0	10	6.069	0	14
69	8.67	15	2.676	2.74	6
70	0	9	3.379	0	3
71	0	29	3.07	4.39	4
72	8.34	1	1.584	6.86	16
73	0	27	4.948	4.51	20

Weather: ZZ999-9999.xls

	Amarta	Bingchen	Chelsmy
January	2.5	2.6	3.4
February	2.7	2.5	2.6
Number of days with rain in Amarta		35	
Number of days with rain in Bingchen		23	
Number of days with rain in Chelsmy		35	
Number of days with heavy rain in Amarta		10	
Average wind speed in Amarta in January		15	
Number of days with a wind speed of less than 5 knots in Amarta in January			5

Values 2 Cells A1:D11 only 1 mark  
 Portrait orientation & single page fully vis 1 mark  
 No row & column headings 1 mark

Comparison of rainfall and sunshine in January and February in Chelsmy

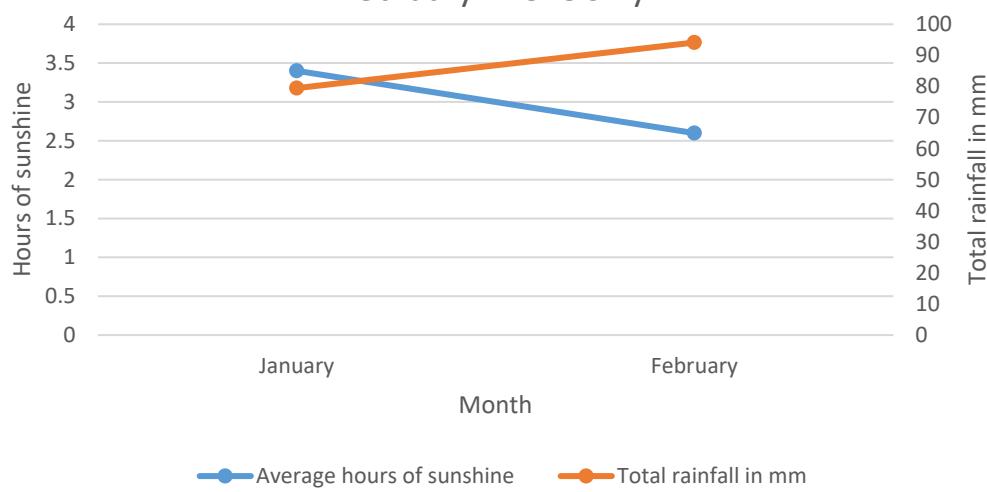


Chart Appropriate chart type 1 mark  
 Appropriate title 1 mark  
 Month as category axis with axis title 1 mark  
 Sunshine plotted with correct values 1 mark  
 ... on primary value axis with axis title 1 mark  
 Rainfall plotted with correct calculated values 1 mark  
 ... on secondary value axis with axis title 1 mark  
 ... maximum scale set to 100 1 mark  
 Legend relates to data & chart has no truncation/overlap 1 mark

```
h1, h2, h3, p {font-family: Calibri, "Helvetica Neue", sans-serif}
```

CSS	All 4 correct styles selected	1 mark
	font-family: <b>Calibri</b>	1 mark
	, "Helvetica Neue" in speech marks	1 mark
	, sans-serif;	1 mark
	Correct CSS syntax with selector { }	1 mark

```
<head>
<title>Weather Data</title>
<meta charset="ISO-8859-1">
<meta name="author" content="TawaraWeb A Candidate">
<meta name="description" content="Weather data for the Tawara region">
<meta name="viewport" content="width=device-width, initial-scale=2.0">
<meta name="keywords" content="Tawara, weather">
<base target="_blank">
</head>
```

Head section	<head>	1 mark
	<title> <b>Weather Data</b> </title>	1 mark
	<meta ... >	1 mark
	... charset= ...	1 mark
	... "ISO-8859-1"	1 mark
	<meta name= ... >	1 mark
	... "author" ...	1 mark
	... content="TawaraWeb A Candidate"	1 mark
	<meta name= ... >	1 mark
	... "description" ...	1 mark
	... content="Weather data for the Tawara region"	1 mark
	<meta name="viewport" ...>	1 mark
	... content="width=device-width ...	1 mark
	..., initial-scale=2.0"	1 mark
	<meta name="keywords" ... >	1 mark
	... content=" ... "	1 mark
	... Tawara ...	1 mark
	... comma separator	1 mark
	... weather	1 mark
	<base ... >	1 mark
	target="_blank"	1 mark
	</head>	1 mark