Write your name, centre number and candidate number in the boxes below.

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

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Types of data and tables

Time allowed: 20 minutes

Subject code **0580**

Mathematics

Questions from Paper 1 and Paper 2

You must have: a ruler marked in centimetres and millimetres, a protractor, compasses, a pen, an HB pencil and an eraser.
You may use a calculator.

Total marks

/ 17

Instructions

- Answer every question in the space provided on this paper.
- Write in black or dark blue ink. Pencil may be used for diagrams and graphs.
- Fill in your name, centre number and candidate number above.
- Show your working: a correct method can earn marks even if the answer is wrong.
- Unless a question says otherwise, give answers that are not exact to 3 significant figures, and angles in degrees to 1 decimal place.

Information

- This paper has 7 questions worth 17 marks in total.
- The marks for each question or part are shown in brackets, for example [3].

Advice

- Read every question through once before you write anything.
- Use the marks in brackets to judge how long to spend on each part.
- If you finish early, go back and check your working.

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Print at 100% (Actual size) so diagrams keep their real measurements.

1 The table shows the distances by road, in kilometres, between some towns in New Zealand.

	Auckland	Hamilton	Napier	New Plymouth	Rotorua
Hamilton	126				
Napier	426	300			
New Plymouth	368	242	415		
Rotorua	235	109	229	319	
Wellington	657	531	332	356	460

Write down the distance between Rotorua and Hamilton.

Answer ..... km [1]

Frequency tables Click for more variations

1	109	**1**	

2 50 students each choose their favourite colour from a list of six colours.
The results for the colours Red, Orange, Yellow, Green and Blue are shown in the tally chart.

Complete the tally chart.

Favourite colour	Tally
Red	𝍸 𝍸 I
Orange	𝍸 𝍸 IIII
Yellow	𝍸 IIII
Green	𝍸
Blue	III
Purple	

[2]

Frequency tables Click for more variations

2	𝍸 III	**2**	**B1** for 11, 14, 9, 5, 3 allow one error or omission or for 50 − 42 seen or for 8 purple

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3 Bobby records the number of days a shop is open during 30 days.

	Tally	Frequency
Days open	𝍸 𝍸 𝍸 𝍸 |	
Days not open		

Complete the table. [2]

Frequency tables Click for more variations

3	23, 7, 𝍸 |	**2**	**B1** for one correct

4 Ben records the favourite sport of each of 20 students.

Football Cricket Hockey Rugby Football Tennis Rugby Football Football Rugby

Tennis Football Rugby Football Cricket Football Rugby Football Cricket Cricket

Complete the frequency table.
You may use the tally column to help you.

Sport	Tally	Frequency
Cricket		
Football		
Hockey		
Rugby		
Tennis		

[2]

Frequency tables Click for more variations

4	4 8 1 5 2	**2**	**B1** for 3 correct frequencies If 0 scored **SC1** for all correct tallies if frequency column blank or for all correct frequencies but in tally column

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5 The mass, correct to the nearest gram, of each of 20 potatoes is shown below.

85	97	125	100	90	102	116	89	96	104
89	107	106	93	84	118	120	98	112	109

(a) Complete the frequency table.
You may use the tally column to help you.

Mass (g)	Tally	Frequency
80 to 89		
90 to 99		
100 to 109		
110 to 119		
120 to 129		

[2]

(b) Write down the modal group.

..... [1]

(a) Frequency tables (b) Averages from grouped data Click for more variations

5(a)	Frequencies 4, 5, 6, 3, 2 cao	**2**	**B1** for 3 or 4 correct in frequency column or for fully correct tally if no frequencies
5(b)	100 to 109	**1**	**FT** *their* frequency table

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6 Pam wins the student of the year award in New Zealand.
She sends three photographs of the award ceremony by post to her relatives.

- one of size 13 cm by 23 cm to her uncle in Australia
- one of size 15 cm by 23 cm to her sister in China
- one of size 23 cm by 35 cm to her mother in the UK

Maximum lengths	Australia	Rest of the world
13 cm by 23.5 cm	\$1.90	\$2.50
15.5 cm by 23.5 cm	\$2.40	\$2.90
23 cm by 32.5 cm	\$2.80	\$3.40
26 cm by 38.5 cm	\$3.60	\$5.20

The cost of postage is shown in the table above.
Use this information to calculate the total cost.

Answer \$ ..... [3]

Frequency tables Click for more variations

6	10[.00]	**3**	**M2** for 1.90 and 2.90 and 5.20 only or **M1** for two of 1.90, 2.90, 5.20 in a list of three or two values from the table or **SC1** FOR 1.90, 2.90, 4.30 $\left[\text{from } \frac{3.40+5.20}{2}\right]$

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7

	Boys	Girls	Total
Asia	62	28	
Europe	35	45	
Africa		17	
Total			255

For a small international school, the holiday destinations of the 255 students are shown in the table.

(a) Complete the table. [3]

(b) What is the probability that a student chosen at random is a girl going on holiday to Europe?

Answer(b) ..... [1]

(a) Two-way tables (b) Basic probability Click for more variations

7	**(a)** Boys / Girls / Total Asia 62 28 **90** Europe 35 45 **80** Africa **68** 17 **85** Total **165** **90** 255 **(b)** $\frac{3}{17}$ or 0.176(47…)	3 1	**B1** two or three correct or **B2** four or five correct Allow $\frac{45}{255}, \frac{15}{85}, \frac{9}{51}$

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