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

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

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Charts and diagrams

Time allowed: 40 minutes

Subject code **0580**

Mathematics

Questions from Paper 1, Paper 2 and Paper 3

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

/ 31

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 10 questions worth 31 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.

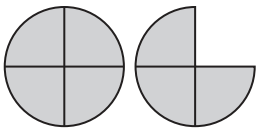
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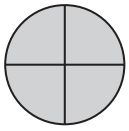
Print at 100% (Actual size) so diagrams keep their real measurements.

1 Zachary asks the 30 students in his class which is their favourite sport.
The table shows the results.

Netball	Football	Hockey	Tennis
7	12	6	5

Complete the pictogram.

Netball	
Football	
Hockey	
Tennis	

Key:  represents 4 people

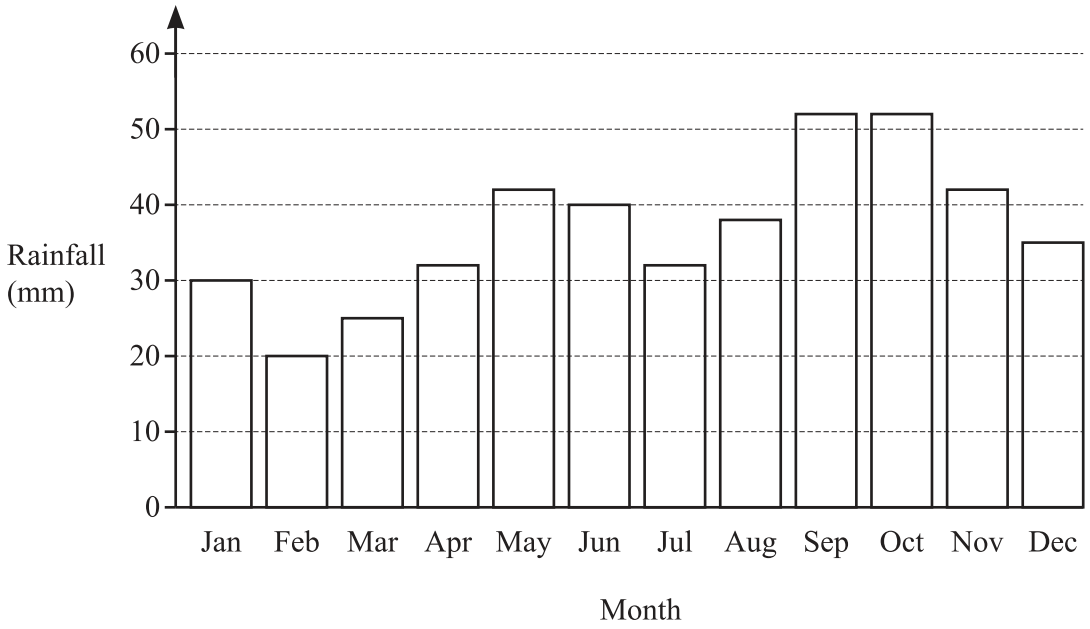
[2]

Bar charts and pictograms Click for more variations

1	Pictogram completed correctly	**2**	**B1** for 2 rows completed correctly

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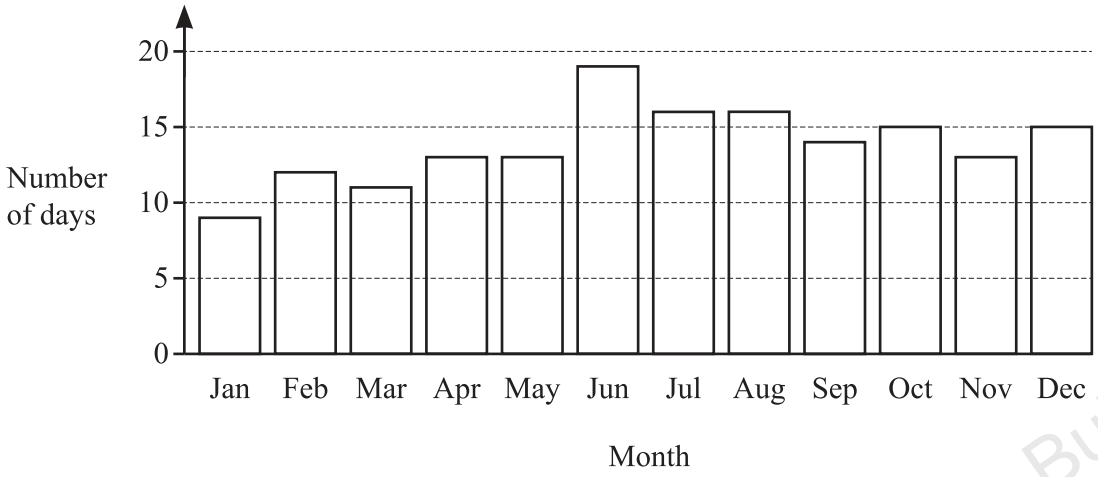
2 This bar chart shows the amount of rainfall, in mm, for each month of one year in a city.



(a) Write down the month with the least amount of rainfall.

..... [1]

(b) This bar chart shows the number of days it rained each month for the same year in this city.



Mia says that the months with the most rainfall also have the greatest number of days it rained.

Explain why she is wrong.

.....

..... [1]

(a) Bar charts and pictograms (b) Bar charts and pictograms Click for more variations

2(a)	Feb	**1**	
2(b)	September and October have most rainfall, June has most rain days oe	**1**	

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3 Thibault records the number of cars of each colour in a car park.

Colour	Black	White	Silver	Red
Number of cars	8	5	4	3

He draws a pie chart to show this information.

Calculate the sector angle for the red cars.

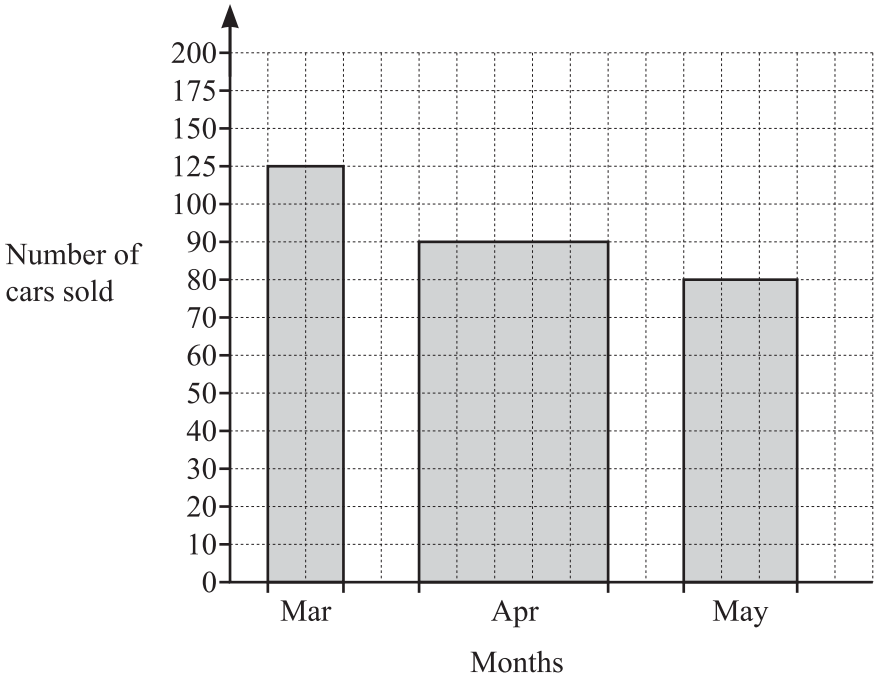
..... [2]

Pie charts Click for more variations

3	54	**2**	**M1** for $\frac{360}{8+5+4+3}[\times 3]$ or $\frac{3}{8+5+4+3}[\times 360]$ oe

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4



A newspaper prints this bar chart to show the number of cars sold by a garage in March, April and May.

Give two reasons why the bar chart is incorrect.

1 .....

.....

2 .....

.....

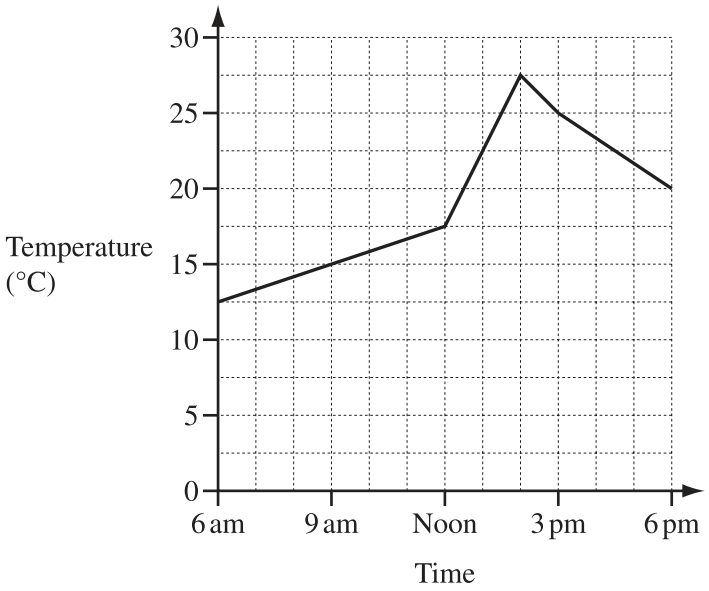
[2]

Bar charts and pictograms Click for more variations

4	Bar width not equal oe Scale not linear oe	**2**	**B1** for each

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5



The graph shows the temperature in Paris from 6 am to 6 pm one day.

(a) What was the temperature at 9 am?

Answer(a) ..... °C [1]

(b) Between which two times was the temperature decreasing?

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

(c) Work out the difference between the maximum and minimum temperatures shown.

Answer(c) ..... °C [1]

(a) Reading and interpreting statistical diagrams (b) Reading and interpreting statistical diagrams (c) Reading and interpreting statistical diagrams Click for more variations

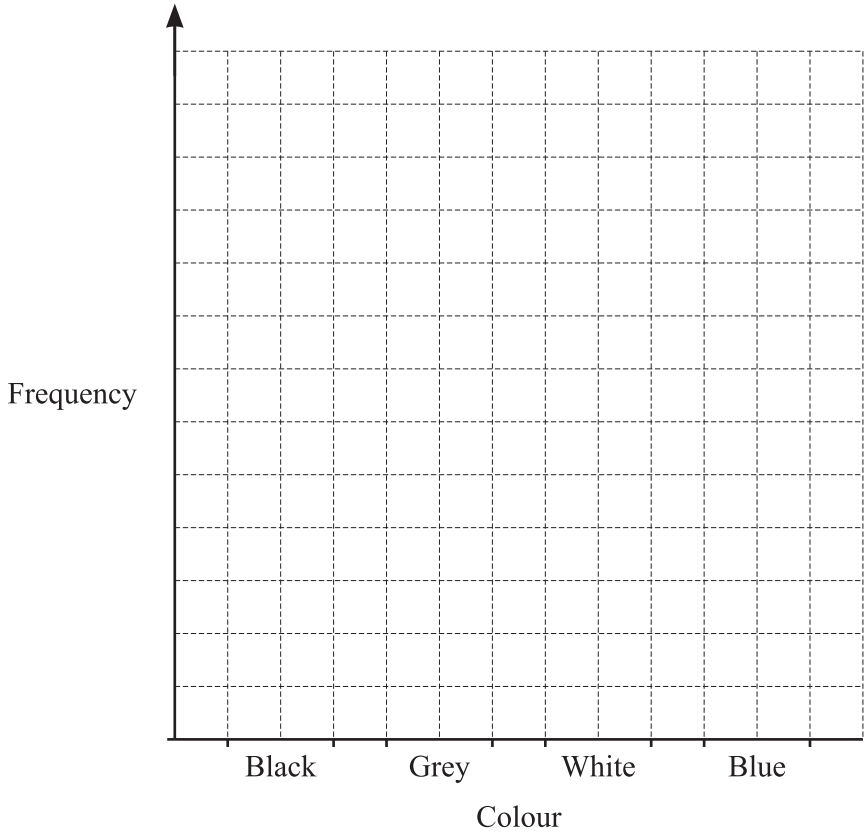
5	**(a)** 15	**1**	
	(b) 2 (pm), 6 (pm)	**1**	
	(c) 15	**1**	Allow –15

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6 Anton records the colour of each car in a car park.
His results are shown in the table.

Colour	Black	Grey	White	Blue
Frequency	12	9	11	4

On the grid, draw a bar chart to show this information.
Complete the scale on the frequency axis.



[3]

Bar charts and pictograms Click for more variations

6	Correct bar chart	**3**	**B1** for a correct, linear vertical scale, with at least 2 numbers alongside the lines **B1** for all bars correct heights, 12, 9, 11 and 4 **B1** for equal width bars and consistent gaps or no gaps between the bars

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7 For 16 days, Safia records the number of dresses she sells.

24	6	18	14	27	37	9	16
22	17	16	16	24	20	15	32

(a) Complete the stem-and-leaf diagram.

0	
1	
2	
3	

Key: 2|4 represents 24 dresses

[2]

(b) Write down the mode.

..... [1]

(c) Find the median.

..... [1]

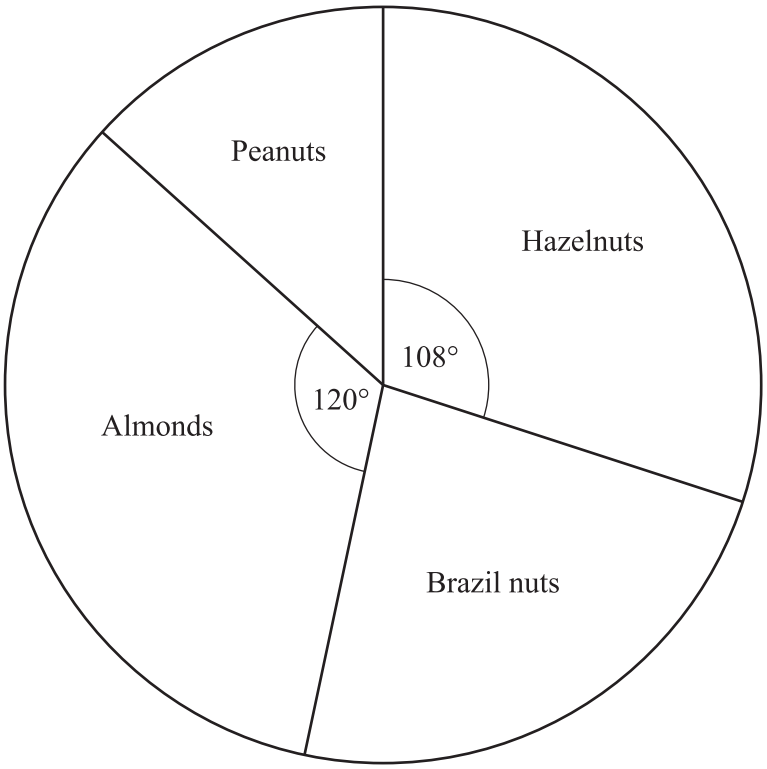
(a) Reading and interpreting statistical diagrams (b) Mean, median and mode (c) Mean, median and mode

Click for more variations

7(a)	0 | 6 9 1 | 4 5 6 6 6 7 8 2 | 0 2 4 4 7 3 | 2 7	**2**	**B1** for two or three rows correct or for a fully correct unordered stem-and-leaf diagram or for a correct diagram with one error or omission
7(b)	16	**1**	
7(c)	17.5	**1**	

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8 Jo counts the number of each type of nut in a bag.
The pie chart shows the results.



(a) Measure the size of the angle for the peanuts.

..... [1]

(b) What fraction of the nuts are almonds?
Give your answer in its simplest form.

..... [1]

(c) There are 45 hazelnuts in the bag.

Calculate the total number of nuts in the bag.

..... [2]

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(a) Pie charts (b) Pie charts (c) Pie charts Click for more variations

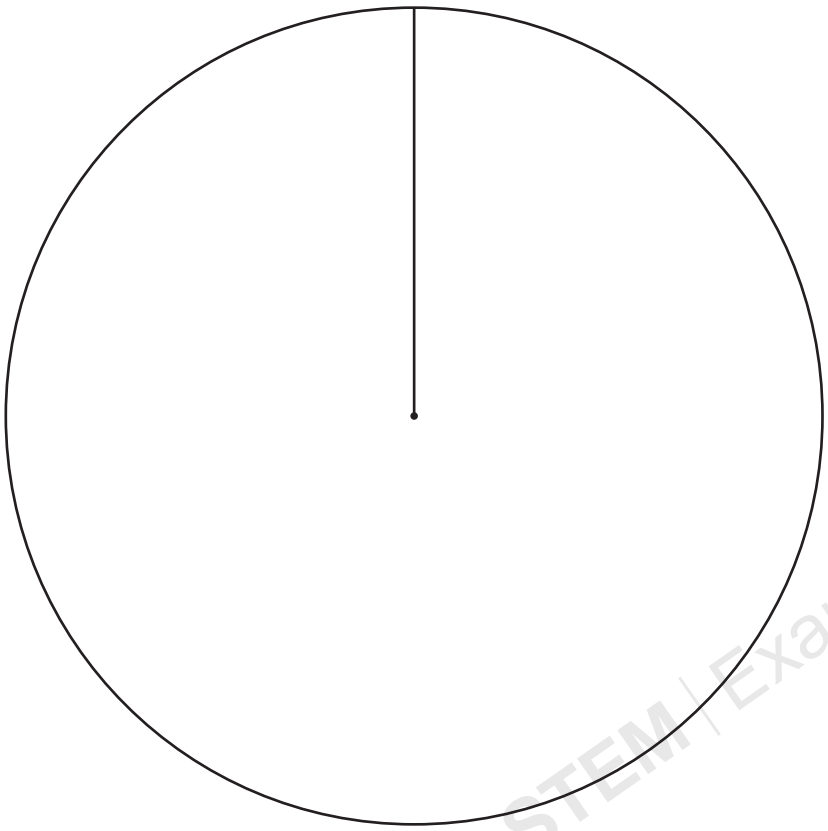
8(a)	48	**1**	
8(b)	$\frac{1}{3}$ cao	**1**	
8(c)	150	**2**	**M1** for $\frac{45}{108} \times 360$ oe

9 The table shows the results of a survey about the colour of 90 cars in a car park.

Colour of car	Frequency	Pie chart sector angle
Black	16	
White	34	
Other	40	

(a) Complete the table. [2]

(b) Complete the pie chart.



[2]

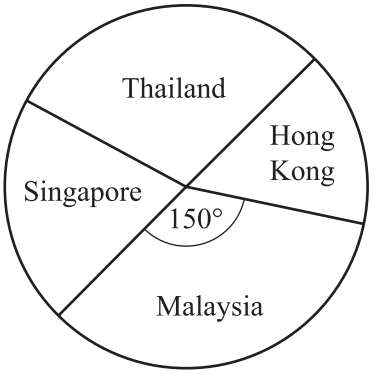
(a) Pie charts (b) Pie charts Click for more variations

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9(a)	64 136 160	**2**	**B1** for 1 correct or **M1** for $\frac{360}{90} \times k$ (k = 1, 16, 34 or 40) oe
9(b)	Accurate pie chart	**2**	**B2FT** if *their* angles add up to 360° or **B1FT** for one correct sector or one correct FT sector (may or may not add up to 360°)

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10



NOT TO SCALE

A travel brochure has 72 holidays in four different countries.
The pie chart shows this information.

(a) There are 24 holidays in Thailand.

Show that the sector angle for Thailand is 120°.

Answer(a)

[2]

(b) The sector angle for Malaysia is 150°.
The sector angle for Singapore is twice the sector angle for Hong Kong.

Calculate the number of holidays in Hong Kong.

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Answer(b) ..... [3]

(a) Pie charts (b) Pie charts Click for more variations

10	**(a)**	correct working	**2**	**M1** for 1 holiday = 5 or 360 ÷ 72 = 5 and **B1** for 24 × 5 [= 120] or **M2** for $\frac{24}{72} \times 360$ [=120] oe
	(b)	6 nfww	**3**	**M1** for 150 + 120 + x + 2x = 360 oe **A1** for 30 identified as the required angle

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