



S21-30min Pie Charts: 30-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

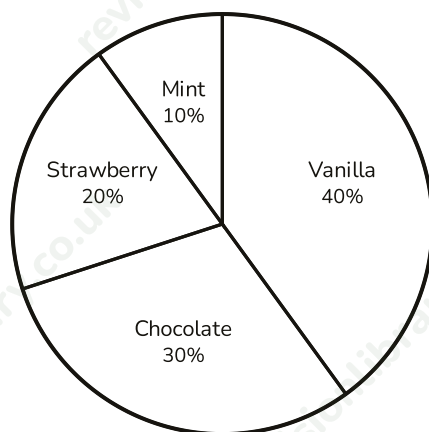
- 1** Write down how many degrees a full circle contains.

(Total for Question 1 is 1 mark)

- 2** Write down whether this statement is True or False: 'In a pie chart, each sector's angle must be proportional to its frequency.'

(Total for Question 2 is 1 mark)

- 3** 50 people were asked to name their favourite ice cream flavour. The pie chart shows the results, with the percentage of people choosing each flavour written on each sector.

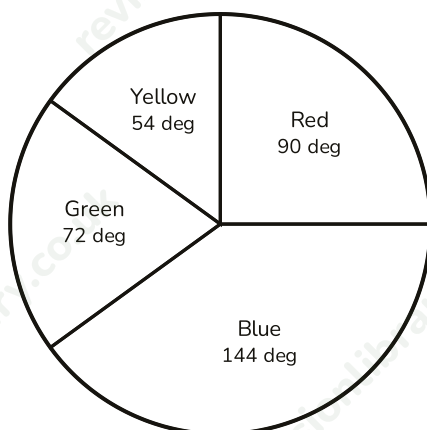


- (a)** Write down the least popular flavour. **(1)**

- (b)** Work out the number of people who chose mint as their favourite flavour. **(2)**

(Total for Question 3 is 3 marks)

- 4 20 children were asked to name their favourite colour. The pie chart shows the results, with the angle of each sector written on the chart.



- (a) Write down the most popular colour. (1)

- (b) Write down the colour chosen by exactly a quarter of the children. (1)

- (c) Write down, as a fraction in its simplest form, the proportion of children whose favourite colour was green. (1)

(Total for Question 4 is 3 marks)

- 5 A pie chart shows the results of a survey of 80 people. One sector has an angle of 90 degrees. Write down this sector as a fraction of the full circle, in its simplest form.

(Total for Question 5 is 1 mark)

- 6 A pie chart for 45 pupils gives a sector of 80 degrees for 'Cycle to school'. Work out how many pupils cycle to school.

(Total for Question 6 is 2 marks)

- 7 36 people were asked to choose their favourite museum exhibit. The pie chart gives 'Dinosaurs' a sector of 150 degrees. Work out the number of people who chose Dinosaurs.

(Total for Question 7 is 2 marks)

- 8 A pie chart has 4 sectors with angles 80, 100, 120 and x degrees. Work out the value of x .

(Total for Question 8 is 2 marks)

- 9 70 people were asked how they get to work. 23 of them said they travel by car.

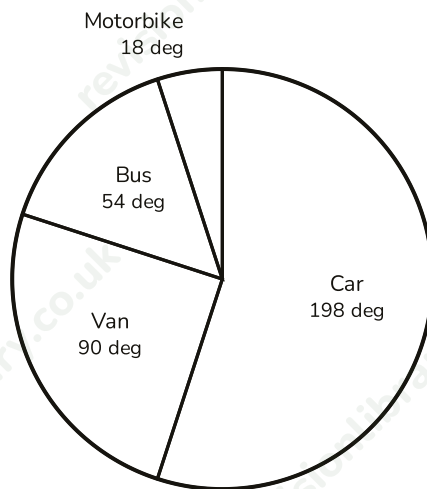
Work out the angle that should be used to represent 'car' on a pie chart. Give your answer correct to the nearest degree.

(Total for Question 9 is 2 marks)

- 10 A pie chart's four sector angles are 72, 108, x and x degrees, where the last two sectors are equal to each other. Work out the value of x .

(Total for Question 10 is 2 marks)

- 11** 120 vehicles passing a checkpoint were counted and classified. The pie chart shows the results, with the angle of each sector written on the chart.

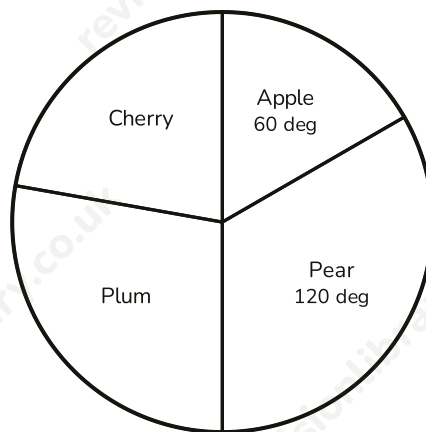


- (a) Work out the number of vans. (2)

- (b) Work out the percentage of vehicles that were motorbikes. (2)

(Total for Question 11 is 4 marks)

- 12** An orchard survey recorded the type of every fruit tree planted. The pie chart shows the results, with two of the sector angles written on the chart. There were 15 apple trees.



- (a) Work out the total number of trees in the orchard. (2)

- (b) Work out the number of pear trees. (2)

- (c) State one assumption you must make in order for your answer to part (b) to be correct. (1)

(Total for Question 12 is 5 marks)

- 13** 150 people were surveyed about their favourite type of holiday. The pie chart shows sectors for Beach (96 degrees), City break (108 degrees), and Countryside (the remaining angle). Work out the number of people who chose Countryside.

(Total for Question 13 is 3 marks)

Mark scheme · S21-30min Pie Charts: 30-minute Pack

Question 1

- **B1** 360 (degrees) cao
- **Answer: 360 degrees**

Question 2

- **B1** True cao
- **Answer: True**

Question 3

- (a) **B1** Mint cao
- (a) **Answer: Mint**
- (b) **M1** 10% of 50, oe, e.g. 0.10×50
- (b) **A1** 5 cao
- (b) **Answer: 5**

Question 4

- (a) **B1** Blue cao
- (a) **Answer: Blue**
- (b) **B1** Red cao
- (b) **Answer: Red**
- (c) **B1** $\frac{1}{5}$ oe cao
- (c) **Answer: $\frac{1}{5}$**

Question 5

- **B1** $\frac{1}{4}$ oe cao
- **Answer: $\frac{1}{4}$**

Question 6

- **M1** $80/360 \times 45$, oe
- **A1** 10 cao
- **Answer: 10**

Question 7

- **M1** $150/360 \times 36$, oe
- **A1** 15 cao
- **Answer: 15**

Question 8

- **M1** $360 - 80 - 100 - 120$, oe
- **A1** 60 cao
- **Answer: 60**

Question 9

- **M1** $23/70 \times 360$, oe
- **A1** awrt 118 (degrees)
- **Answer: 118 degrees (nearest degree)**

Question 10

- **M1** $360 - 72 - 108 (= 180)$, oe
- **A1** 90 cao
- **Answer: 90**

Question 11

- (a) **M1** $90/360 \times 120$, oe
- (a) **A1** 30 cao
- (a) **Answer: 30**
- (b) **M1** $18/360 \times 100$, oe
- (b) **A1** 5% cao
- (b) **Answer: 5%**

Question 12

- (a) **M1** $15 / (60/360)$, oe, e.g. $360/60 (=6)$ then 15×6
- (a) **A1** 90 cao
- (a) **Answer: 90**
- (b) **M1** $120/360 \times 90$, oe (ft their total from (a))
- (b) **A1** 30 cao
- (b) **Answer: 30**
- (c) **B1** that the pie chart has been drawn accurately/to scale, so each sector angle is exactly proportional to its frequency, oe
- (c) **Answer: The pie chart has been drawn accurately, so the sector angles are exactly proportional to the number of trees.**

Question 13

- **M1** $360 - 96 - 108 (= 156)$, oe
- **M1** $156/360 \times 150$, oe
- **A1** 65 cao
- **Answer: 65**