



KS3.M-S6 Pie Charts

AQA KS3.M-S6 · Calculators not allowed · about 50 minutes

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** A class of 30 pupils choose their favourite fruit. 10 choose apples, 6 choose bananas, 8 choose oranges and 6 choose grapes. Calculate the angle, in degrees, for the sector representing apples in a pie chart.

(1)

- 2** A survey of 40 people found 20 prefer tea, 12 prefer coffee and 8 prefer hot chocolate. What is the angle, in degrees, for the coffee sector in a pie chart?

(1)

- 3** Complete: A full circle is 360 degrees. What fraction of the circle is represented by a sector of 72 degrees? Give your answer in simplest form.

(1)

- 4** A pie chart shows pupils' favourite sport. The hockey sector is 56 degrees. There are 45 pupils in total. How many pupils chose hockey?

(2)

- 5** A pie chart shows modes of travel to school. Car 90 degrees, Bus 72 degrees, Walk 54 degrees. Calculate the angle for the 'Other' category.

(1)

6 A pie chart divides favourite pets into four equal sectors. How many degrees is each sector?

(1)

7 A class of 24 pupils were asked their favourite season. Winter 8 pupils, Spring 4 pupils, Summer 6 pupils, Autumn 6 pupils. What is the angle for the Summer sector?

(1)

8 A pie chart has a sector of 30 degrees representing 'red'. What percentage of the whole does 'red' represent? Give your answer to 1 decimal place.

(2)

9 A school has 180 students. A pie chart showing favourite school subject has a sector of 144 degrees for Maths. How many students chose Maths?

(2)

10 A pie chart is drawn for 40 people. A sector is 198 degrees. How many people does this sector represent?

(2)

11 A pie chart shows the colours of cars in a car park. 25% of the cars are blue. What is the angle in degrees for the blue sector?

(1)

- 12** A pie chart for favourite school clubs has three sectors: 120 degrees, 150 degrees and the rest. If 96 pupils were surveyed, how many pupils correspond to the smallest sector (the rest)?

(2)

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- 13** A survey of 60 pupils records favourite school activities. 15 pupils chose music. What angle, in degrees, should be used for the music sector in a pie chart for these 60 pupils?

(1)

Mark scheme • KS3.M-S6 Pie Charts

Question 1

- **B1** 120 degrees cao
- Answer: **120 degrees**

Question 2

- **B1** 108 degrees cao
- Answer: **108 degrees**

Question 3

- **B1** $\frac{1}{5}$ cao
- Answer: **$\frac{1}{5}$**

Question 4

- **M1** uses $56/360 \times 45$ or equivalent method
- **A1** $56/360 \times 45 = 7$ cao
- Answer: **7**

Question 5

- **B1** 144 degrees cao
- Answer: **144 degrees**

Question 6

- **B1** 90 degrees cao
- Answer: **90 degrees**

Question 7

- **B1** 90 degrees cao
- Answer: **90 degrees**

Question 8

- **M1** uses $30/360 \times 100$ or equivalent method
- **A1** 8.3% (to 1 dp) cao
- Answer: **8.3%**

Question 9

- **M1** uses $144/360 \times 180$ or equivalent method
- **A1** 72 cao
- Answer: **72**

Question 10

- **M1** uses $198/360 \times 40$ or equivalent method
- **A1** 22 cao
- Answer: **22**

Question 11

- **B1** 90 degrees cao
- Answer: **90 degrees**

Question 12

- **M1** finds remaining angle $360 - 120 - 150 = 90$ and uses $90/360 \times 96$
- **A1** 24 cao
- Answer: **24**

Question 13

- **B1** 90 degrees cao
- Answer: **90 degrees**