

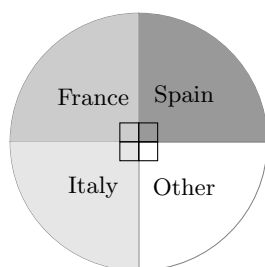
Foundation GCSE: Pie Charts

Name: _____

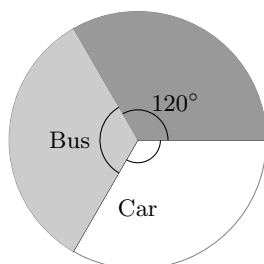
Class: _____

Instructions: Answer all questions. Questions are ordered from easiest (1) to hardest (8). Working out should be shown where appropriate.

1. In a survey of 60 holidaymakers, the pie chart below shows the preferred destinations. Calculate the sector angle representing Spain.



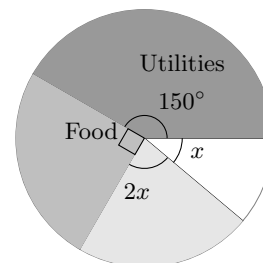
2. A pie chart represents the transport methods of 120 school students. If the sector for walking has an angle of 120° as shown below, how many students walk to school?



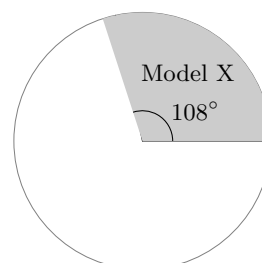
3. A pet shop survey records the favourite animals of 40 customers as shown in the table below. Calculate the sector angles for each category to construct a pie chart.

Animal	Frequency
Dogs	16
Cats	12
Fish	8
Rabbits	4

4. A household monthly budget is broken down into four categories in the pie chart below. Rent takes 150° and Food takes 90° (a right angle). If Utilities takes twice the angle of Savings, calculate the missing angle x for Savings.



5. A regional library records the genres of 90 books borrowed on a Saturday morning: Fiction (45), Non-Fiction (30), and Mystery (15). Calculate the sector angles for each category to sketch the pie chart.
6. A survey of mobile phone users yields the pie chart below, where the sector for Model X has an angle of 108° and represents 18 phones sold. Calculate the total number of phones sold across all models in the survey.



7. A sports club records the membership types of 200 members: Football (90), Rugby (60), Cricket (30), and Tennis (20). Calculate the sector angles for each group to draw a fully labelled pie chart.
8. A cafe records hot drink sales over a weekend: Tea (30), Coffee (50), Hot Chocolate (20). Calculate the angles for each drink and construct a completed pie chart showing all sectors.

Answers & Worked Solutions

1. 90°

$$\left(\frac{15}{60} \times 360^\circ\right)$$

2. 40 students

$$\left(\frac{120}{360} \times 120\right)$$

3. Dogs: 144° , Cats: 108° , Fish: 72° , Rabbits: 36°
(each frequency multiplied by 9°).

4. 40°

$$(360^\circ - 150^\circ - 90^\circ = 120^\circ; 3x = 120^\circ \implies x = 40^\circ).$$

5. Fiction: 180° , Non-Fiction: 120° , Mystery: 60°
(multiplied by 4° per book).

6. 60 phones

$$\left(18 \times \frac{360}{108}\right)$$

7. Football: 162° , Rugby: 108° , Cricket: 54° , Tennis: 36°
(each frequency multiplied by 1.8°).

8. Tea: 108° , Coffee: 180° , Hot Chocolate: 72°
(total frequency 100, multiplier 3.6° per drink).