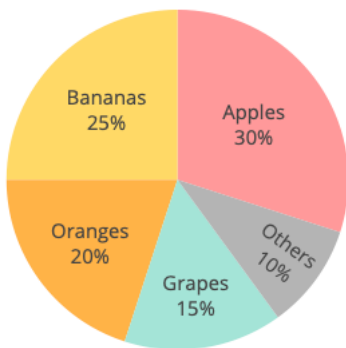


Pie Charts: Problem Solving Worksheet

The pie chart below shows the favourite fruits of 120 students in a class:

- Apples: 30%
- Bananas: 25%
- Oranges: 20%
- Grapes: 15%
- Others: 10%

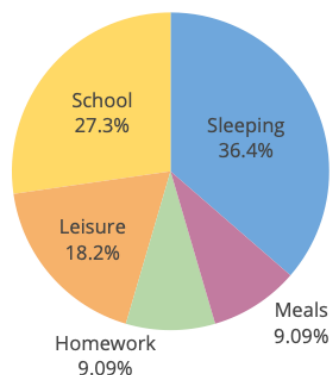
How many students chose bananas as their favourite fruit?



In a survey, a pie chart represents the time spent on different activities in a day:

- Sleeping: 8 hours
- School: 6 hours
- Homework: 2 hours
- Leisure: 4 hours
- Meals: 2 hours

What fraction of the day is spent at school? Give your answer in its simplest form.

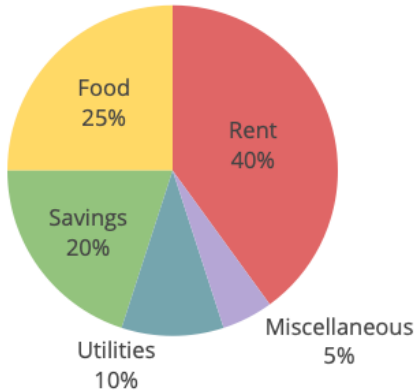


Maths with Melissa

A pie chart shows how a family spends its monthly income:

- Rent: 40%
- Food: 25%
- Savings: 20%
- Utilities: 10%
- Miscellaneous: 5%

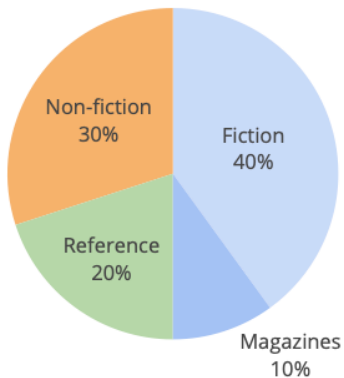
If the monthly income is £2,000, how much is spent on food?



The pie chart below represents the distribution of 180 books in a library:

- Fiction: 72 books
- Non-fiction: 54 books
- Reference: 36 books
- Magazines: 18 books

What percentage of the books are reference books?

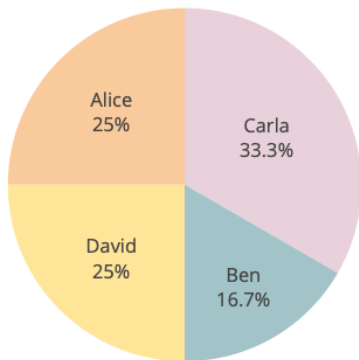


Maths with Melissa

In a class election, the votes are shown on a pie chart:

- Alice: 90°
- Ben: 60°
- Carla: 120°
- David: 90°

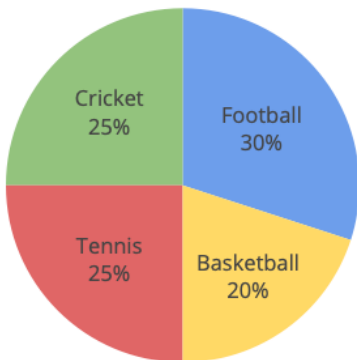
If there are 120 votes in total, how many votes did Ben receive?



The pie chart below shows the favourite sports of students:

- Football: 108°
- Basketball: 72°
- Cricket: 90°
- Tennis: 90°

What percentage of students chose basketball as their favourite sport?

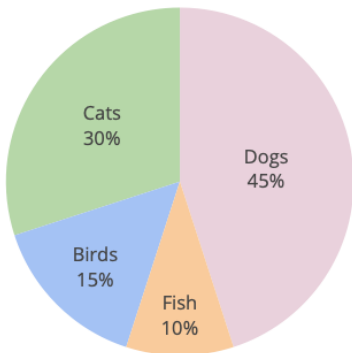


Maths with Melissa

A pie chart shows the results of a survey about pets owned by 200 families:

- Dogs: 90 families
- Cats: 60 families
- Birds: 30 families
- Fish: 20 families

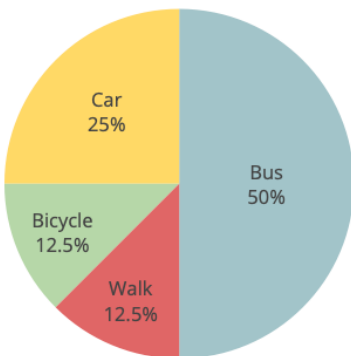
If a family is chosen at random, what is the probability that they own a cat? **Give your answer as a fraction.**



The pie chart below shows the types of transport used by 240 students to get to school:

- Bus: 120 students
- Car: 60 students
- Bicycle: 30 students
- Walk: 30 students

What angle in the pie chart represents the students who walk to school?

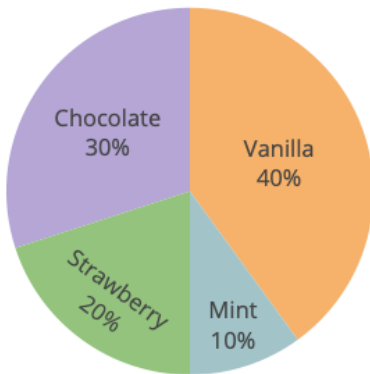


Maths with Melissa

In a pie chart showing favourite ice cream flavours among 150 people:

- Vanilla: 60 people
- Chocolate: 45 people
- Strawberry: 30 people
- Mint: 15 people

What is the central angle for chocolate?



The pie chart below shows how a student spends her pocket money:

- Sweets: 25%
- Books: 35%
- Games: 15%
- Savings: 25%

If she receives £40 per month, how much does she spend on books?



Maths with Melissa

Answer Key

1. 30% of $120 = 0.3 \times 120 = \mathbf{36 \text{ students}}$
2. School: 6 hours out of 24 hours. Fraction = $6/24 = \mathbf{1/4}$
3. 25% of $\pounds 2,000 = 0.25 \times 2,000 = \mathbf{\pounds 500}$
4. Reference books: $(36/180) \times 100 = \mathbf{20\%}$
5. Total degrees = $90 + 60 + 120 + 90 = 360^\circ$ Ben's share: $(60/360) \times 120 = (1/6) \times 120 = \mathbf{20 \text{ votes}}$
6. Total degrees = $108 + 72 + 90 + 90 = 360^\circ$ Basketball: $(72/360) \times 100 = \mathbf{20\%}$
7. Probability = Number of families with cats / Total families = $60/200 = \mathbf{3/10}$
8. Walk: 30 students. Angle = $(30/240) \times 360 = 1/8 \times 360 = \mathbf{45^\circ}$
9. Chocolate: $(45/150) \times 360 = 0.3 \times 360 = \mathbf{108^\circ}$
10. Books: 35% of $\pounds 40 = 0.35 \times 40 = \mathbf{\pounds 14}$