Drawing and reading pie charts

ANSWERS

1

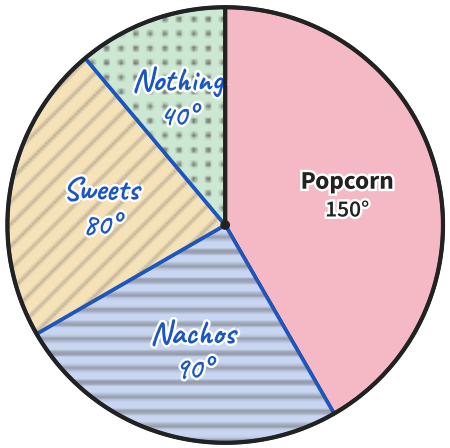
A cinema asked 36 people which snack they bought.

a) Total frequency: 36

b) Degrees each: 360° ÷ 36 = 10°

c) Check the angles add up to 360°.

d) Draw the pie chart.



	Frequency	Angle
Popcorn	15	15 × 10 = 150°
Nachos	9	9 × 10 = 90°
Sweets	8	8 × 10 = 80°
Nothing	4	4 × 10 = 40°
Total	**36**	**360°**

2

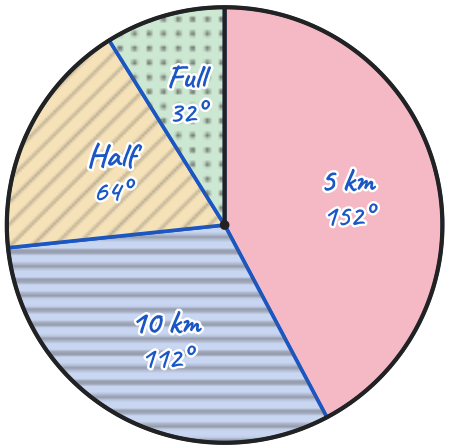
45 runners chose a race distance.

a) Total frequency: 45

b) Degrees each: 360° ÷ 45 = 8°

c) Complete the angle column.
The angles add up to 360°.

d) Draw the pie chart.



	Frequency	Angle
5 km	19	19 × 8 = 152°
10 km	14	14 × 8 = 112°
Half	8	8 × 8 = 64°
Full	4	4 × 8 = 32°
Total	**45**	**360°**

3

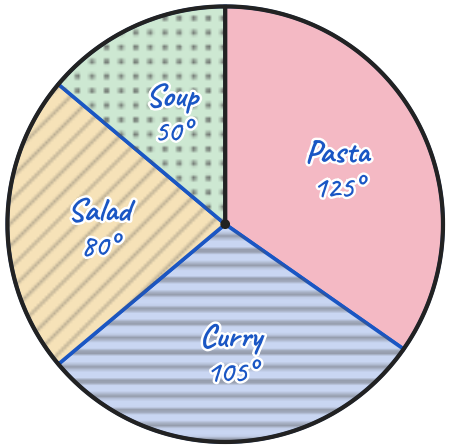
Some students chose a school lunch.

a) Total frequency: 72

b) Degrees each: 360° ÷ 72 = 5°

c) Complete the angle column.
The angles add up to 360°.

d) Draw the pie chart.



	Frequency	Angle
Pasta	25	25 × 5 = 125°
Curry	21	21 × 5 = 105°
Salad	16	16 × 5 = 80°
Soup	10	10 × 5 = 50°
Total	**72**	**360°**

4

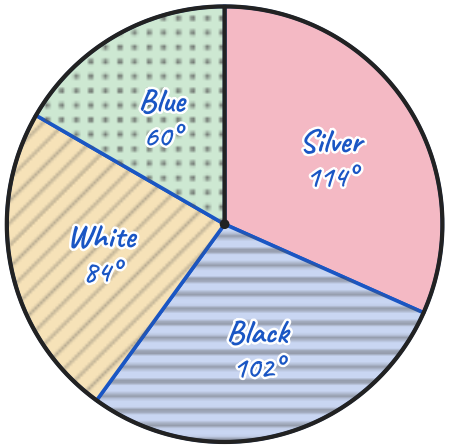
A garage counted the colours of the cars it serviced.

a) Total frequency: 60

b) Degrees each: 360° ÷ 60 = 6°

c) Complete the angle column.
The angles add up to 360°.

d) Draw the pie chart.



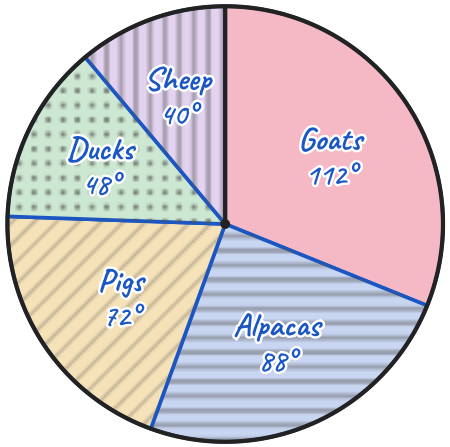
	Frequency	Angle
Silver	19	19 × 6 = 114°
Black	17	17 × 6 = 102°
White	14	14 × 6 = 84°
Blue	10	10 × 6 = 60°
Total	60	**360°**

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ANSWERS

5

90 visitors to a farm park chose their favourite animal. Draw a pie chart.



	Frequency	Angle
Goats	28	$28 \times 4 = 112°$
Alpacas	22	$22 \times 4 = 88°$
Pigs	18	$18 \times 4 = 72°$
Ducks	12	$12 \times 4 = 48°$
Sheep	10	$10 \times 4 = 40°$
Total	**90**	**360°**

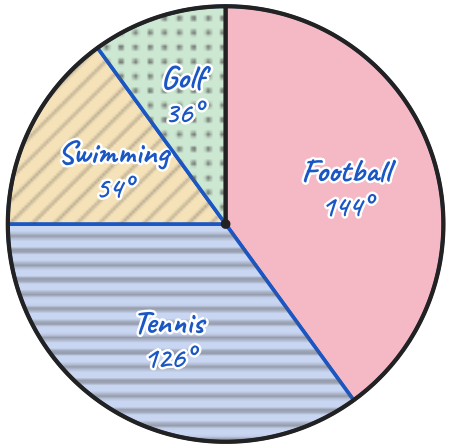
6

Ola asked 20 people their favourite sport.
She says the angle for Tennis is 7°.

a) Explain why Ola is wrong.

She used the frequency as the angle.
Each person is $360° \div 20 = 18°$, so
Tennis is $7 \times 18 = 126°$.

b) Draw the pie chart.



	Frequency	Angle
Football	8	$8 \times 18 = 144°$
Tennis	7	$7 \times 18 = 126°$
Swimming	3	$3 \times 18 = 54°$
Golf	2	$2 \times 18 = 36°$
Total	**20**	**360°**

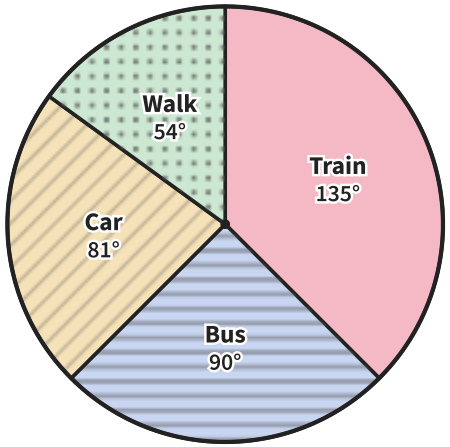
7

The pie chart shows how 40 people travelled to a match. How many came by train?

$360° \div 40 = 9°$ each

$135 \div 9 = 15$

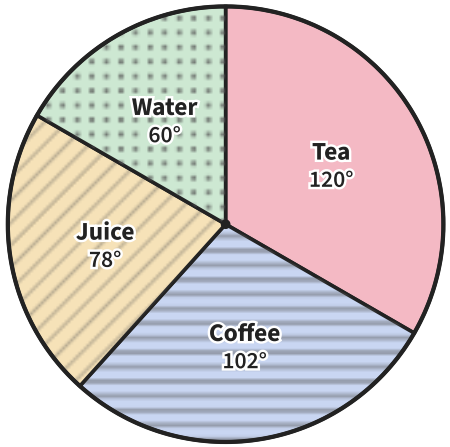
Train 15 people



8

The pie chart shows the drinks 60 people chose.
Complete the frequency table.

$360° \div 60 = 6°$ each



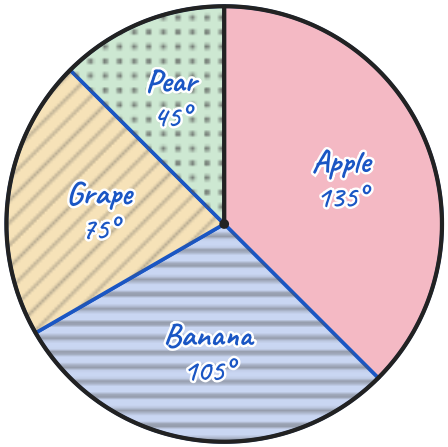
	Angle	Frequency
Tea	120°	$120 \div 6 = 20$
Coffee	102°	$102 \div 6 = 17$
Juice	78°	$78 \div 6 = 13$
Water	60°	$60 \div 6 = 10$
Total	**360°**	**60**

Drawing and reading pie charts *further practice*

ANSWERS

9

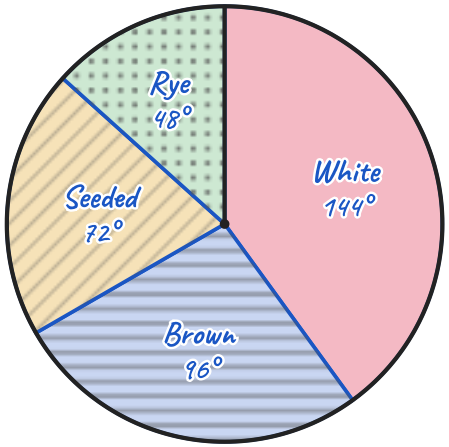
24 pupils chose their favourite fruit.
Draw a pie chart.



	Frequency	Angle
Apple	9	9 × 15 = 135°
Banana	7	7 × 15 = 105°
Grape	5	5 × 15 = 75°
Pear	3	3 × 15 = 45°
Total	**24**	**360°**

10

A bakery sold 45 loaves: 18 white, 12 brown, 9 seeded and the rest rye.
Complete the table, then draw a pie chart.



	Frequency	Angle
White	18	144°
Brown	12	96°
Seeded	9	72°
Rye	6	48°
Total	**45**	**360°**

11

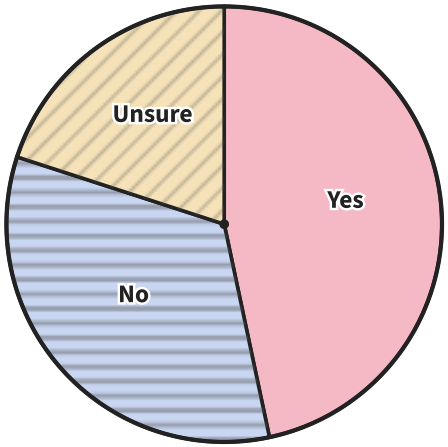
30 people voted on a new skate park.
Measure the angle for Yes.
How many people voted Yes?

Angle 168° (allow 2° either way)

360° ÷ 30 = 12° each

168 ÷ 12 = 14

Yes 14 people



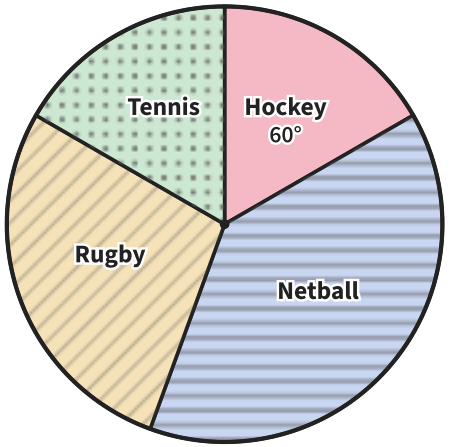
12

In this pie chart, the 60° sector shows the 15 people who chose hockey.
How many people are shown altogether?

60 ÷ 15 = 4° for each person

360 ÷ 4 = 90

Total 90 people

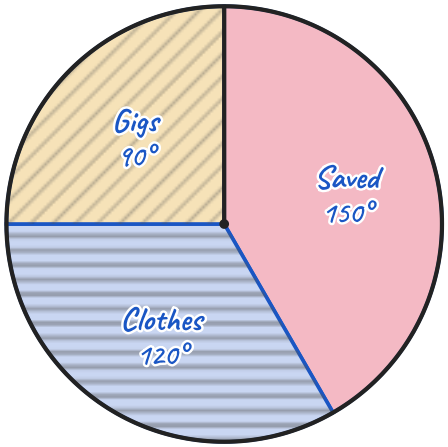


Drawing and reading pie charts *further practice*

ANSWERS

13

Zara earned £120 from a summer job. She saved £50, spent £40 on clothes and £30 on gigs. Draw a pie chart.



	Amount (£)	Angle
Saved	50	50 × 3 = 150°
Clothes	40	40 × 3 = 120°
Gigs	30	30 × 3 = 90°
Total	**120**	**360°**

14

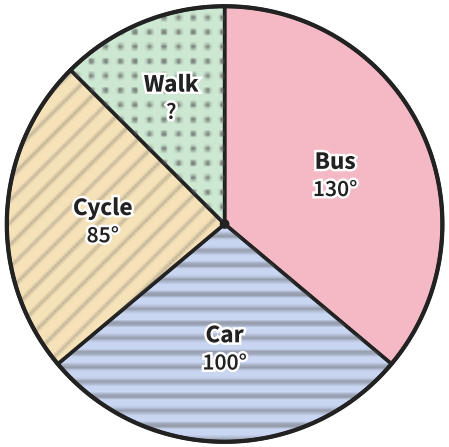
The pie chart shows how 72 commuters travel. Work out the angle for Walk, then how many people walk.

360 − 130 − 100 − 85 = 45°

360° ÷ 72 = 5° each

45 ÷ 5 = 9

Walk 9 people



15

Ben drew a pie chart for 45 people. His angles were 150°, 110°, 70° and 40°. Explain how you know he has made a mistake.

150 + 110 + 70 + 40 = 370°

The angles must add up to 360°.

(Also 110 is not a multiple of 8.)

16

In class A (30 students) the Walk sector is 120°. In class B (60 students) it is 90°. Mo says more students walk in class A. Is he right? Show how you know.

A: 360 ÷ 30 = 12, 120 ÷ 12 = 10 students

B: 360 ÷ 60 = 6, 90 ÷ 6 = 15 students

No: 15 walk in class B, only 10 in A.