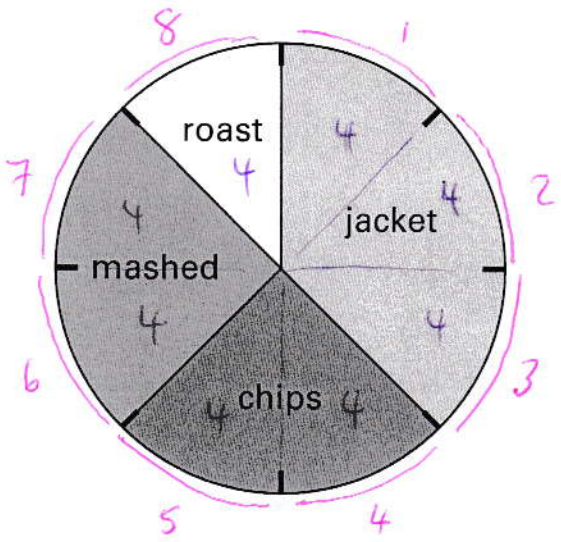
1 This pie chart shows how the children in Class 6 best like their potatoes cooked.



8 SECTORS

⇒ 1 SECTOR = $\frac{32}{8}$ = 4

32 children took part in the survey.

Look at the four statements below.

For each statement put a tick (✓) if it is **correct**.
Put a cross (✗) if it is **not correct**.

10 children like chips best. ☒

25% of the children like mashed potatoes best. ☑

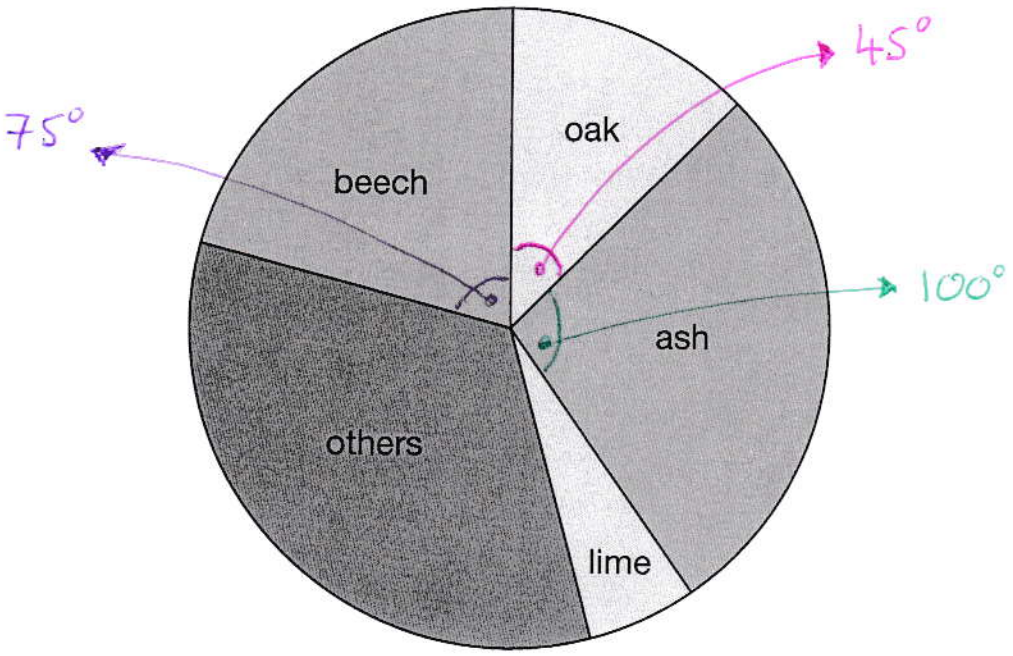
$\frac{1}{5}$ of the children like roast potatoes best. ☒

12 children like jacket potatoes best. ☑

[2 marks]

2 Class 6 did a survey of the number of trees in a country park.

This pie chart shows their results.



Estimate the **fraction** of trees in the survey that are **oak** trees.

$\frac{45}{360} = \frac{9}{72} = \frac{1}{8}$

$\frac{1}{8}$

The children counted 60 **ash** trees.

Use the pie chart to estimate the **number** of **beech** trees they counted.

$\frac{75}{100} = \frac{3}{4} \rightarrow \frac{3}{4} \times 60 = 45$

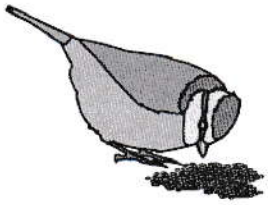
45

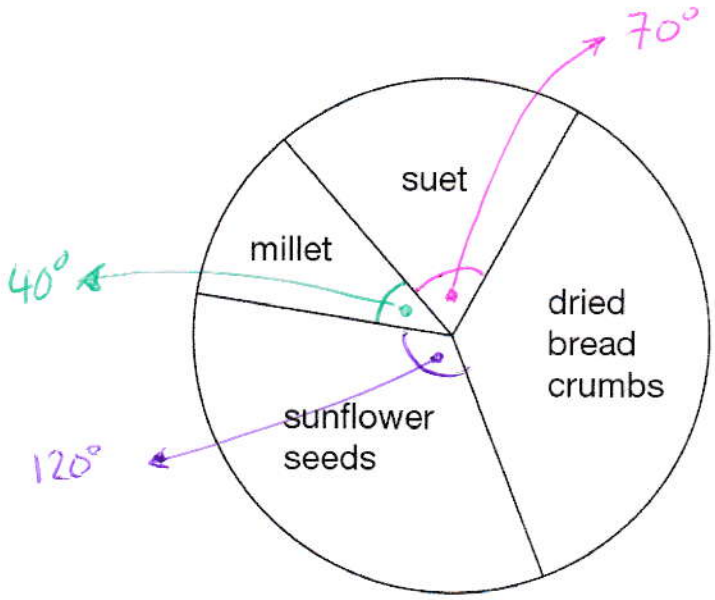
[APPROX]

OTHER METHODS ARE ACCEPTABLE

[2 marks]

3 This pie chart shows the ingredients to make a food mixture for wild birds.





Estimate the **percentage** of mixture that is suet.

$\frac{70}{360} : \frac{7}{36}$ → ABOUT $\frac{8}{40} = \frac{1}{5}$

20%

20 %

OR $\frac{1}{4}$ IS 25%.
AND SUIT IS LESS THAN $\frac{1}{4}$
SO ABOUT 20%!

Mina uses 100 grams of millet in the mixture.

Estimate how many grams of sunflower seeds she should use.

3 TIMES AS MUCH!

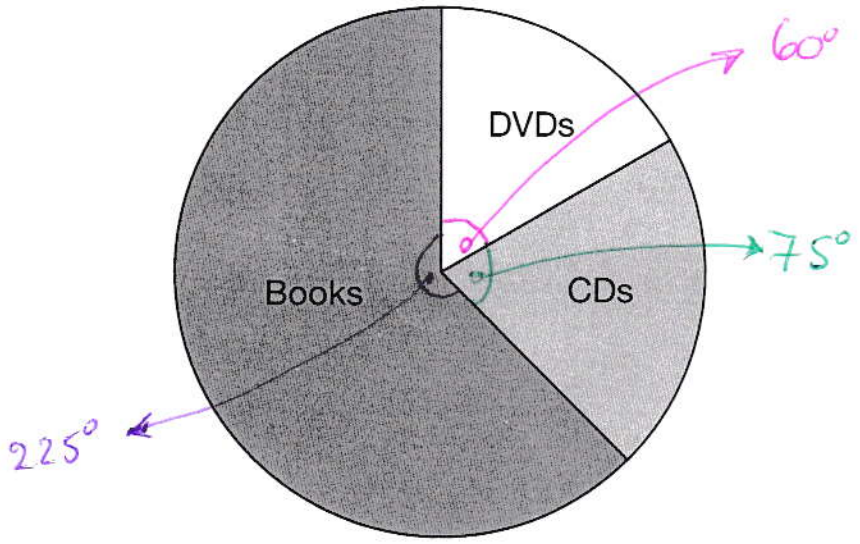
$3 \times 100 = 300$

300 g

[2 marks]

4 A shop sells books, CDs and DVDs.

This pie chart shows the sales of each in one week.



Estimate the **fraction** of the total sales that were DVDs.

$\frac{60}{360} = \frac{6}{36} = \frac{1}{6}$

$\frac{1}{6}$

In this week, 200 **CDs** were sold.

Estimate how many books were sold.

$\frac{225}{75} = 3$

600

[3 TIMES AS MANY BOOKS]

$3 \times 200 = 600$

[2 marks]

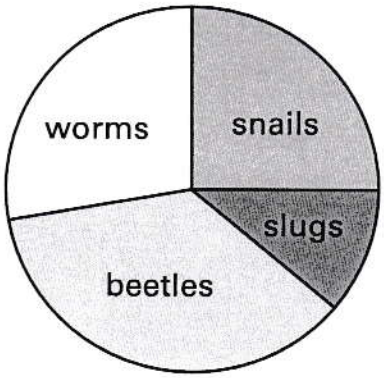
OTHER METHODS ARE ACCEPTABLE.

5 Tony and Gemma looked for snails, worms, slugs and beetles in their gardens.



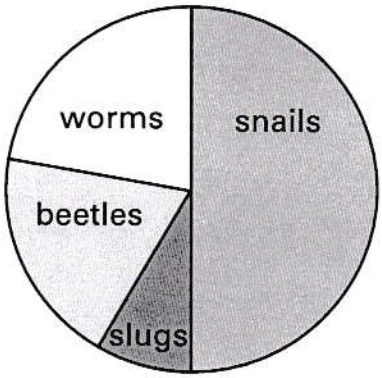

They each made a pie chart of what they found.

Tony's pie chart



Total 80

Gemma's pie chart



Total 36

Estimate the number of **worms** that **Tony** found.

JUST OVER $\frac{1}{4}$ OF 80

22

Who found more **snails**?
Circle Tony or Gemma.

(Tony) Gemma

Explain how you know.

TONY FOUND

$\frac{1}{4}$ OF 80 = 20

GEMMA FOUND

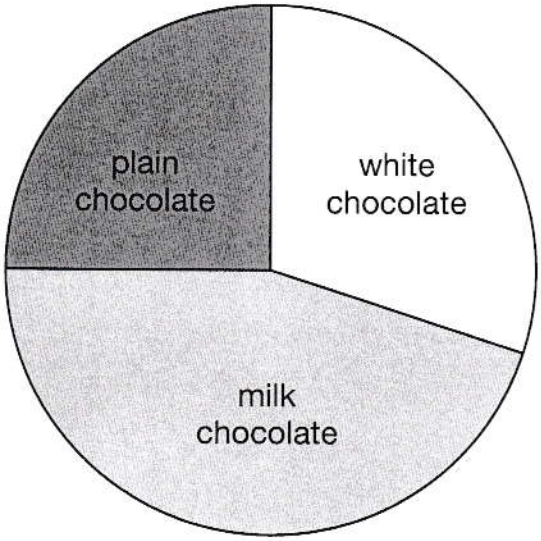
$\frac{1}{2}$ OF 36

= 18

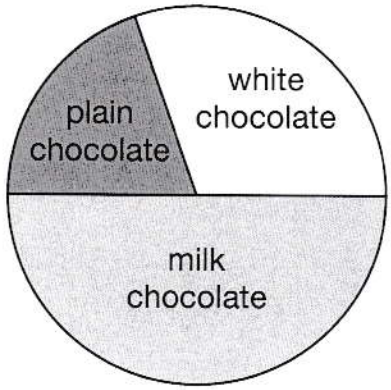
[2 marks]

6 100 girls and 50 boys were asked which kind of chocolate they like best.

These two pie charts show the results.



100 girls



50 boys

Dev says,

> *"The pie charts show that more girls than boys liked milk chocolate best."*

Dev is correct.

Explain how you know.

BOYS THAT LIKED MILK CHOCOLATE WAS $\frac{1}{2}$ OF 50 = 25

BUT 25 IS $\frac{1}{4}$ OF THE GIRLS AND A LOT MORE THAN $\frac{1}{4}$ OF THE GIRLS

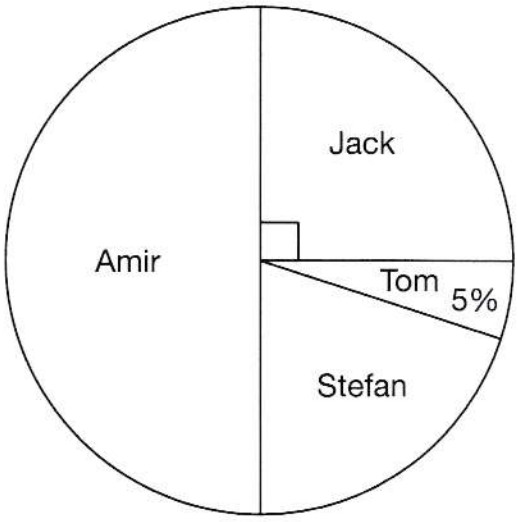
PIE CHART IS MILK CHOCOLATE

[ANY REASONABLE EXPLANATION IS ACCEPTABLE – E.G. "JUST UNDER $\frac{1}{2}$ THE GIRLS, WHICH IS JUST UNDER 50"]

[1 mark]

7 **40** children predicted who would win the boys' race at sports day.

This pie chart shows their predictions.



What percentage of the children predicted that Stefan would win?

20 %

10 children predicted the winner of the race **correctly**.

Who won the race?

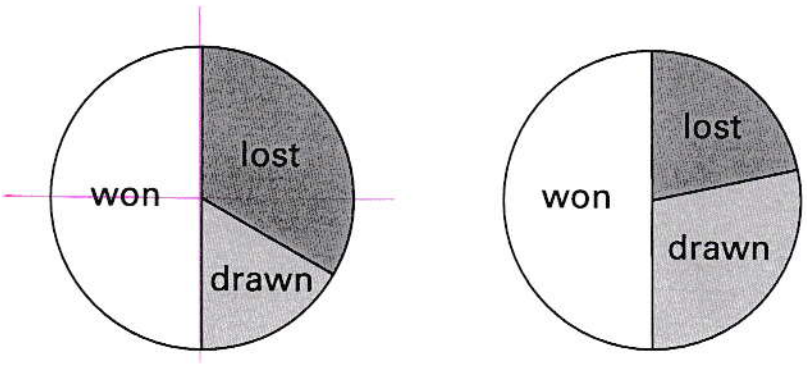
JACK

Explain how you know.

10 IS $\frac{1}{4}$ OF 40 SO $\frac{1}{4}$ OF THE PIE CHART IS USED. THIS IS JACK'S PORTION.

[2 marks]

8 The pie charts show the results of a school's netball and football matches.



Netball Football

The netball team played **30** games.

The football team played **24** games.

Estimate the percentage of games that the **netball team lost.**

ABOUT $\frac{1}{3}$

33 %

David says,

'The two teams won the same number of games'.

Is he correct?
Circle Yes or No.

Yes / (No)

Explain how you know.

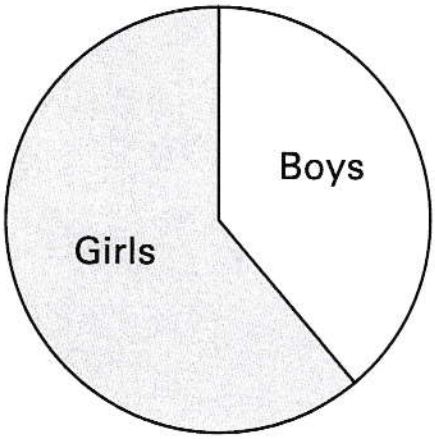
NETBALL WON $\frac{1}{2}$ OF 30 = 15

FOOTBALL WON $\frac{1}{2}$ OF 24 = 12

[2 marks]

9 Sarah makes a pie chart to show the proportion of boys and girls in her class.

	Number in class	Size of angle on pie chart
Boys	14	144°
Girls	21	216°



The next day another **boy** joins Sarah's class.

She makes a new pie chart.

Calculate the angle for **boys** on the new pie chart.

[2 marks]

BEFORE : 14 BOYS AND 21 GIRLS = 35

NOW : 15 BOYS AND 21 GIRLS = 36

BOYS ANGLE = $\frac{15}{36} \times 360$] METHOD MARK.

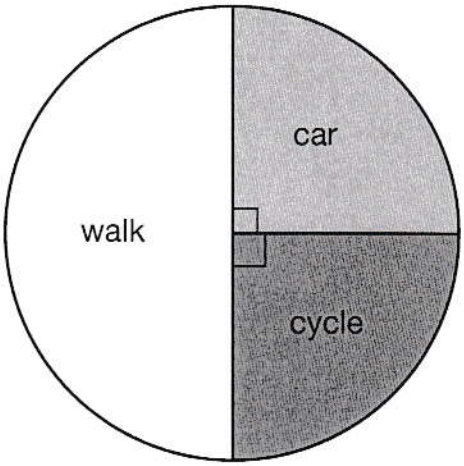
= $\underline{\underline{150°}}$] ANSWER MARK.

10 Megan asked children from two different schools,

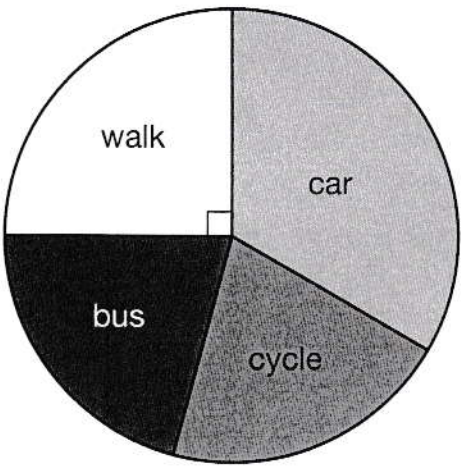
[2013]

'How do you travel to school?'

Here are her results.



Foxwood school
80 children



Midtown school
240 children

Megan says,

'The number of children walking to Foxwood school is more than the number walking to Midtown school.'

Is she correct?
Circle **Yes** or **No**.

Yes / (No)

Explain how you know.

CHILDREN WALKING TO FOXWOOD IS
$\frac{1}{2}$ OF 80 = 40
CHILDREN WALKING TO MIDTOWN IS
$\frac{1}{4}$ OF 240 = 60
SO MORE WALK TO MIDTOWN.

At Midtown school, one third of children travel by car.

The number of children who cycle is the same as the number who go on the bus.

How many children **cycle** to Midtown school?

Show your method

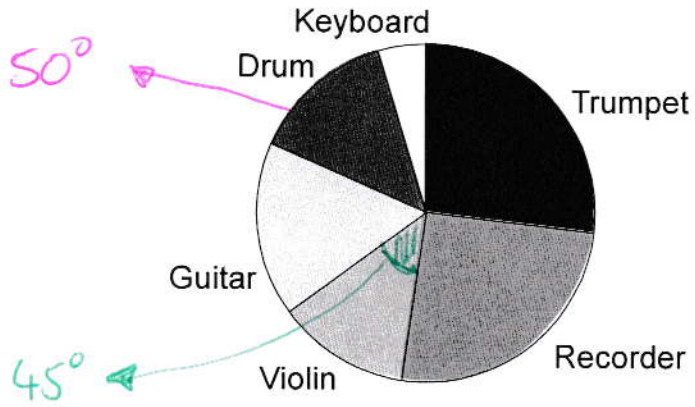
CAR = $\frac{1}{3}$ x 240 = 80, WALK = 60
So, BUS + CYCLE = 240 − (80 + 60)
= 100
So CYCLE = 50

50

11 []

The Year 6 children in a school were asked to choose a musical instrument.

This is a pie chart of their choices.



Estimate what **fraction** of the children chose a **drum**.

$\frac{50}{360} = \frac{5}{360} \approx \frac{6}{36} = \frac{1}{6}$

$\frac{1}{6}$

There are **80** children in Year 6.

Estimate the number of children who chose a **violin**.

$\frac{45}{360} \times 80 = \frac{1}{8} \times 80$

10

Explain how you decided.

THE ANGLE IS 45° WHICH IS $\frac{1}{8}$ AND $\frac{1}{8}$ OF 80 = 10.

[3 marks]