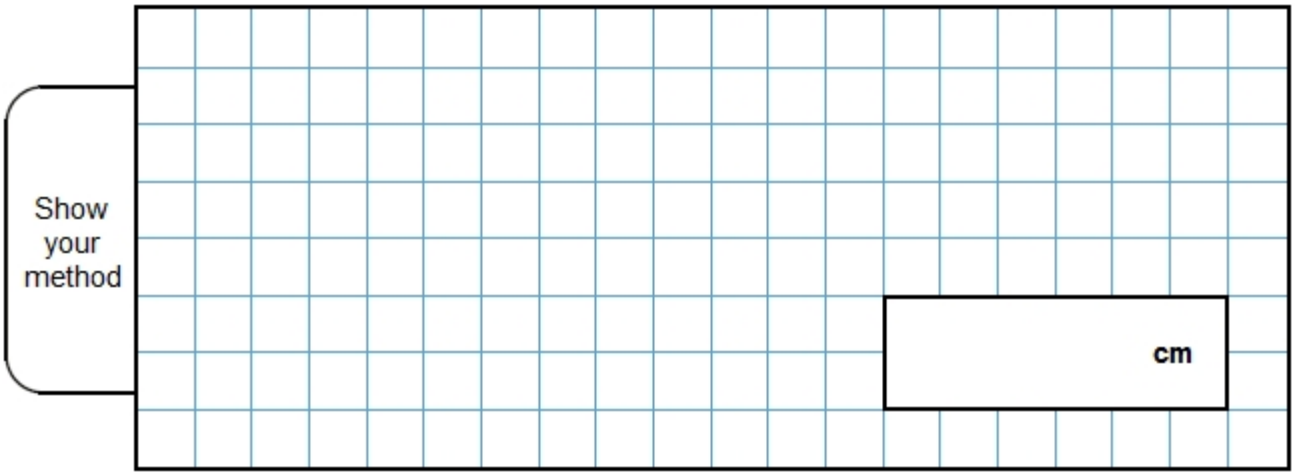
1. Seven children measured their heights.

Children	Height (cm)
Stefan	144
Lara	136
Olivia	142
Chen	143
Maria	152
Dev	148
Sarah	150

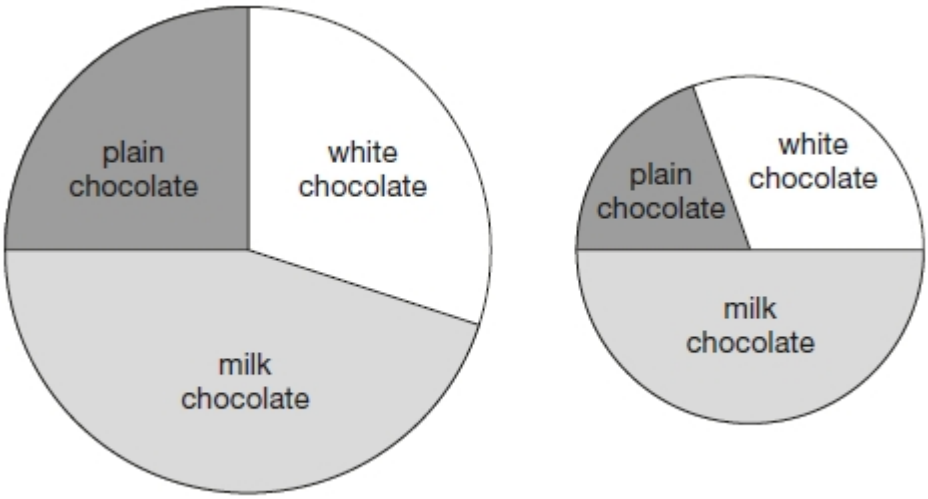
What is the mean height of the children?



2 marks

2. 100 girls and 50 boys were asked which kind of chocolate they like best.

These two pie charts show the results.



Dev says:

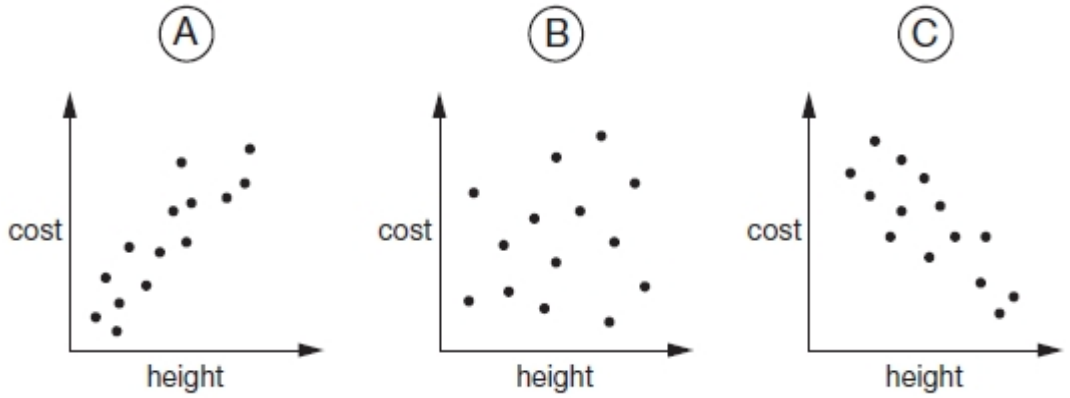
"The pie charts show that more girls than boys liked milk chocolate best."

Dev is correct.

Explain how you know.

1 mark

3. Here are three scatter graphs showing the heights of people and the cost of clothes.



Chen says,

'The taller you are, the more your clothes cost.'

Megan says,

'The shorter you are, the more your clothes cost.'

Alfie says,

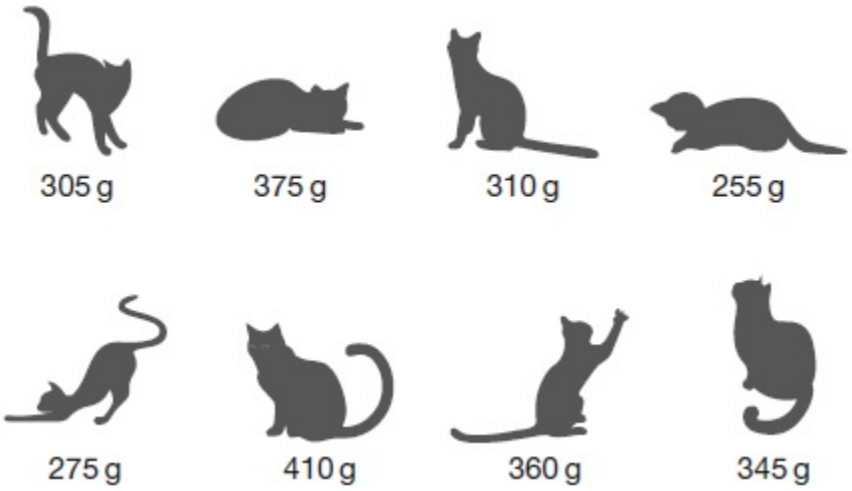
'There is no relationship between your height and what your clothes cost.'

Write the letter of each scatter graph that shows what each person says.

Chen_____ Megan _____ Alfie _____

1 mark

4. This picture shows the masses of eight kittens.



What is the **difference** in mass between the heaviest kitten and the lightest kitten?

g

1 mark

The masses of the kittens are to be put in four groups.

Write the missing numbers in the table.

One has been done for you.

Mass in g	Number of kittens
250-299	
300-349	
350-399	
400-449	1

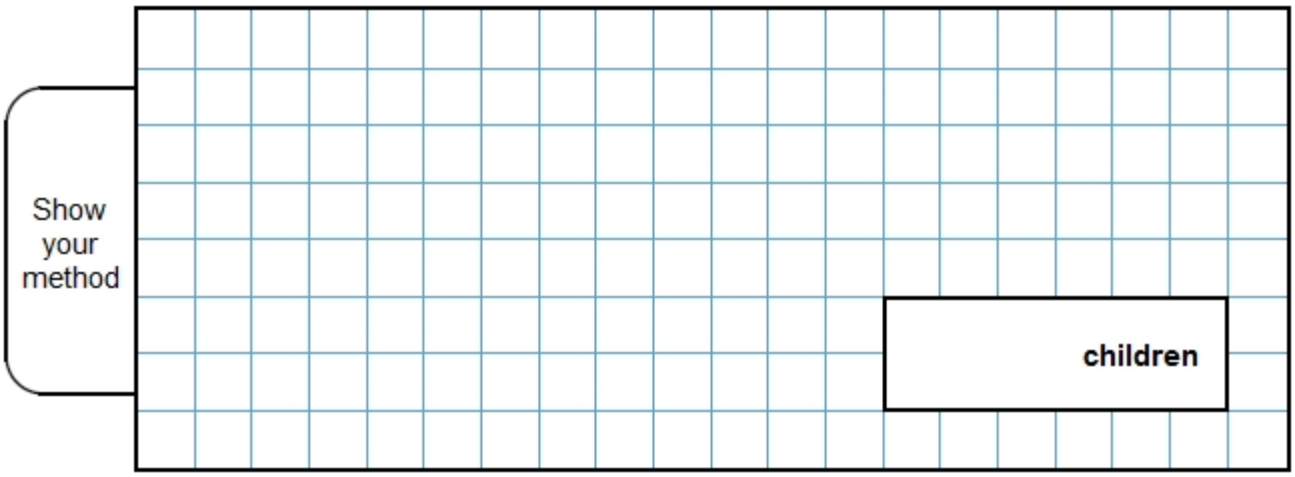
1 mark

5. In a survey of children's favourite fruit juices, these were the results.

Juice	Apple	Orange	Grape	Mango
Percentage of children	25%	14%	30%	31%

(a) **20 more** children chose grape than chose apple.

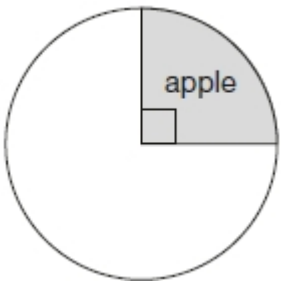
How many children took part in the survey?



2 marks

(b) Chen makes a pie chart to show the results.

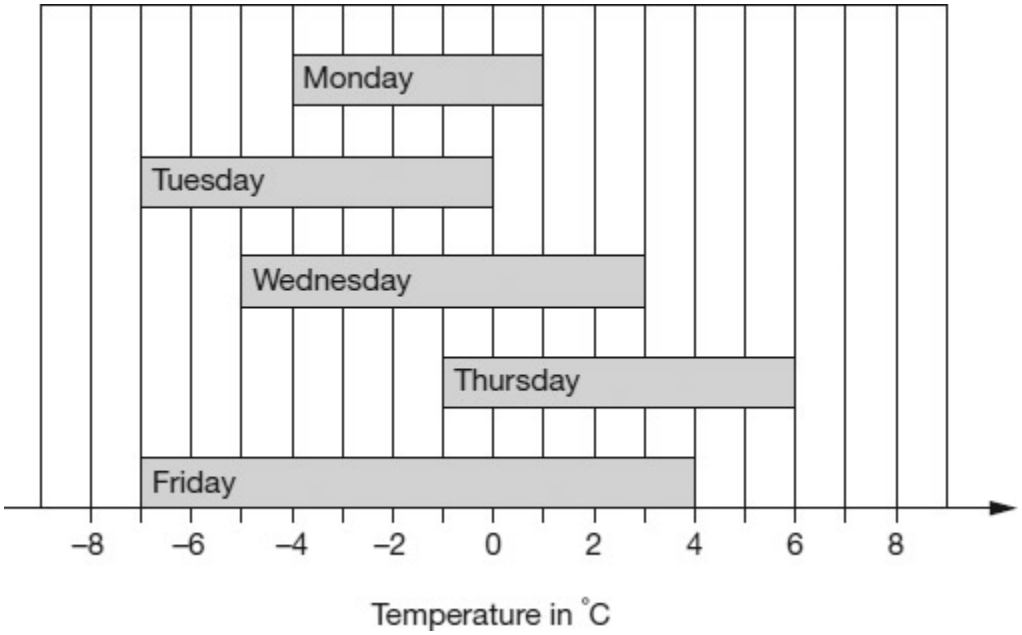
What **angle** should he use for the children who chose **mango**?



°

1 mark

6. This chart shows the range of temperatures each day during one week from Monday to Friday.



What was the **lowest** temperature?

°C

1 mark

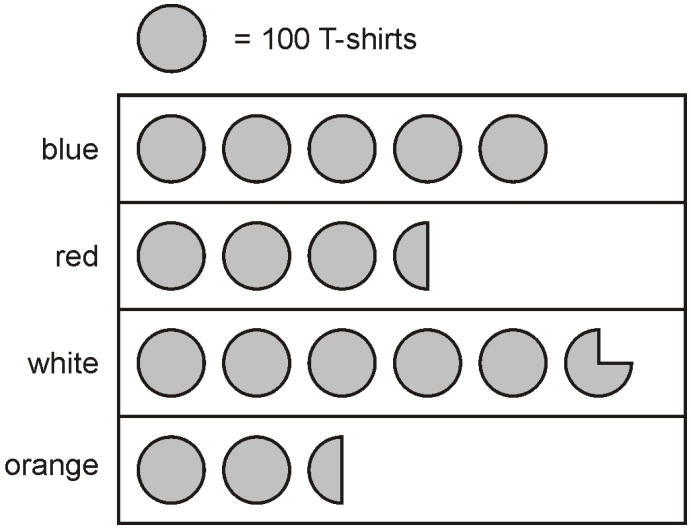
What was the difference between the highest and lowest temperatures on **Wednesday**?

°C

1 mark

7. A shop sells T-shirts.

This chart shows how many T-shirts were sold in a month.



Write the colours of the T-shirts that sold **more than 400** in the month.

_____

1 mark

How many red T-shirts and orange T-shirts were sold **altogether**?

1 mark

How many **more** white than blue T-shirts were sold?

1 mark

8. (a) **Complete** this tally chart.

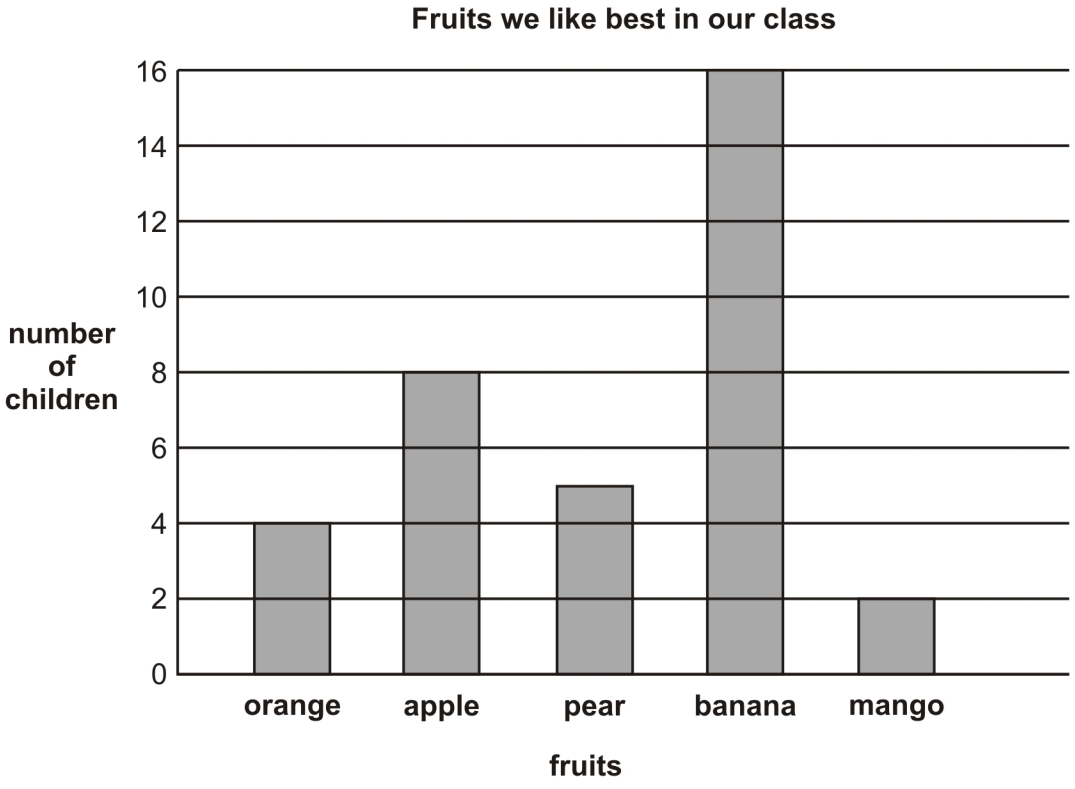
Fruits we like best in our class

fruit	tally	number of children
orange		5
apple	𝍸 ||	8
pear	|||	3
banana	𝍸 𝍸 𝍸 |	
mango	||	2

1 mark

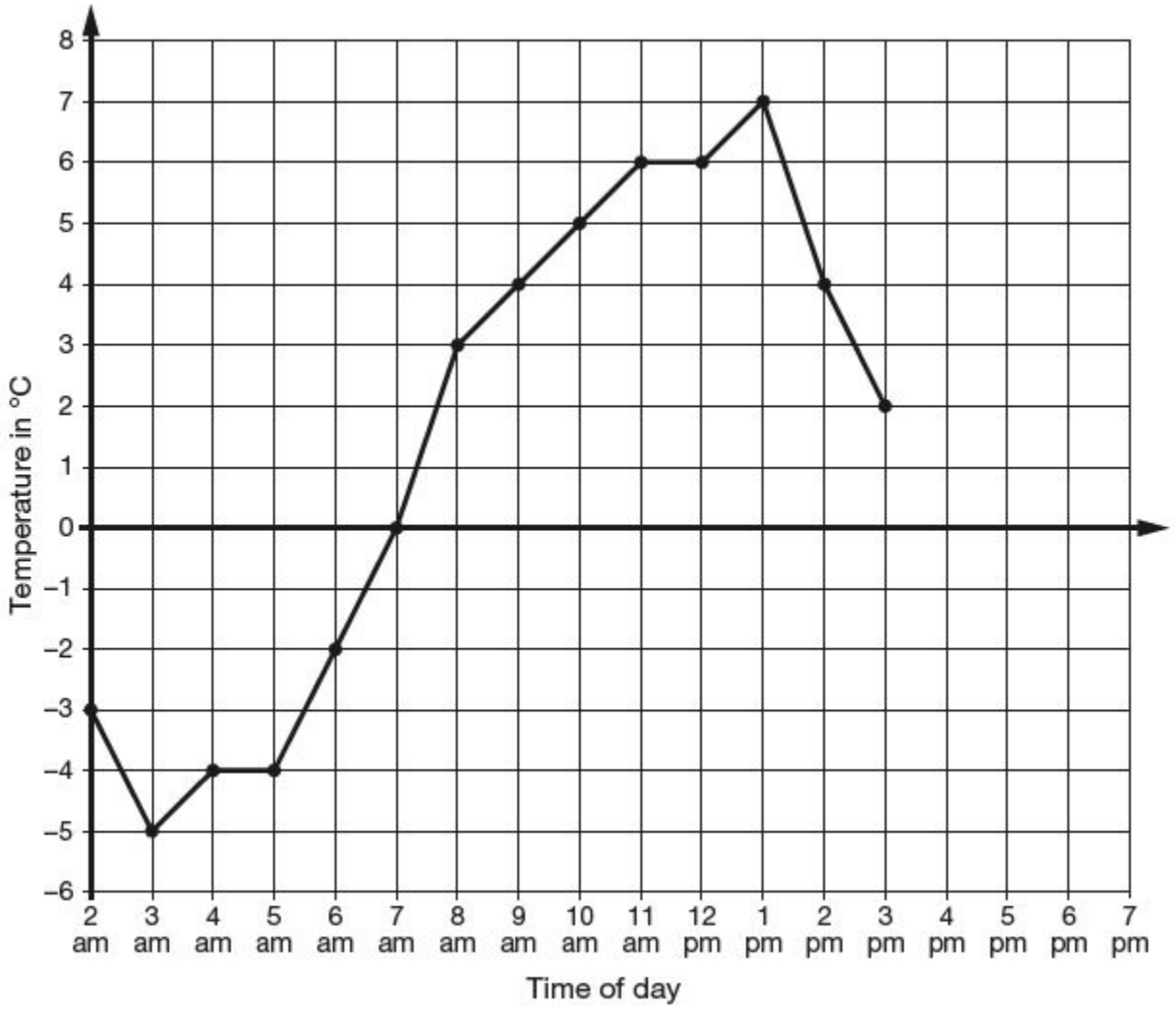
(b) The children made this graph from the tally chart.

Put a cross (✗) on the two columns which are wrong.



1 mark

9. This graph shows the temperature in °C from 2 am to 3 pm on a cold day.



How many degrees **warmer** was it at 3 pm than at 3 am?

°C

1 mark

At 6 pm the temperature was 4 degrees lower than at 3 pm.

What was the temperature at 6 pm?

°C

1 mark

Mark schemes

1. Award **TWO** marks for the correct answer of 145

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g:

- 144
  136
  142
  143
  152
  148
  + 150
  1015

1015 ÷ 7

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2

[2]

2. Award **ONE** mark for an explanation which recognises that the two pie charts represent different numbers of children, e.g:

- '25 boys like milk chocolate best and more than 25 girls do'
- 'It's almost half of 100 girls and that's more than half of 50 boys'
- 'The pie chart shows that half of the boys chose milk chocolate and that's 25. About 45 girls chose milk chocolate because it's nearly half of the girls' pie chart'
- '25 boys chose milk chocolate, but (whole number in the range 40-49) girls chose milk chocolate'
- 'There are twice as many girls as boys so a quarter of the girls' pie chart is the same number as half of the boys' pie chart, and it's more than a quarter of the girls'
- $\frac{1}{2}$ of 50 boys chose milk = 25

  $\frac{1}{4}$ of 100 girls chose plain = 25

  and from the girls' pie chart it is obvious that more chose milk than plain'

- ‘There are twice as many girls as boys and the sizes of the pie charts show this and the area for boys who like milk chocolate is smaller than the area for girls who like it’.

  Do not *accept vague or incomplete explanations, e.g:*

  - *‘100 is more than 50’*
  - *‘More girls took part than boys so more girls like milk chocolate’*
  - *‘The section for boys who like milk chocolate is smaller than the section for girls who like it’.*

Commentary: The pie charts are presented using the mathematical convention that their areas are proportional to the numbers they represent, i.e. in this example the chart for girls has twice the area of the chart for boys.

[1]

3. Identifies all three graphs correctly, ie:

- Chen **A** Megan **C** Alfie **B**

  Accept unambiguous indications of the correct graph for each person, eg:

  - *Names written on scatter graphs*

[1]

4. (a) 155

1

(b) Table completed with three correct numbers, as shown:

Mass in g	Number of kittens
250-299	**2**
300-349	**3**
350-399	**2**
400-449	1

All three numbers must be correct for the award of the mark.

Do not *accept tally marks on their own.*

1

[2]

5. (a) 400

2

or

Shows or implies a complete correct method, eg:

- 30% − 25% = 5%

  5% = 20

  100% = 20 × 20

1

(b) 111.6 **or** 112

Do not accept *111*

1

[3]

6. (a) −7

Do not *accept 7−*

1

(b) 8

Do not *accept −8*

1

[2]

7. (a) blue **AND** white

Colours may be given in either order.

Accept unambiguous abbreviations or recognisable misspellings.

1

(b) 600

1

(c) 75

1

[3]

8. (a) tally to indicate 5 oranges inserted
AND
16 inserted for the number of children who like bananas

This must be: 

Do not accept: 

Both correct for 1 mark.

1

(b) crosses drawn on orange and pear columns on graph

Both correct for 1 mark.

1

[2]

9. (a) 7

1

***Do not** accept −7 or 7−*

(b) −2

1

***Do not** accept 2−*

[2]