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International Examinations Papers

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MATHEMATICS - Core

TOPIC- Pie charts & Sector

01 Bruce plays a game of golf.
His scores for each of the 18 holes are shown below.

2	3	4	5	4	6	2	3	4
4	5	3	4	3	5	4	4	4

The information is to be shown in a pie chart.

Calculate the sector angle for the score of 4.

Answer ..... [2]

02 Michelle sells ice cream.
The table shows how many of the different flavours she sells in one hour.

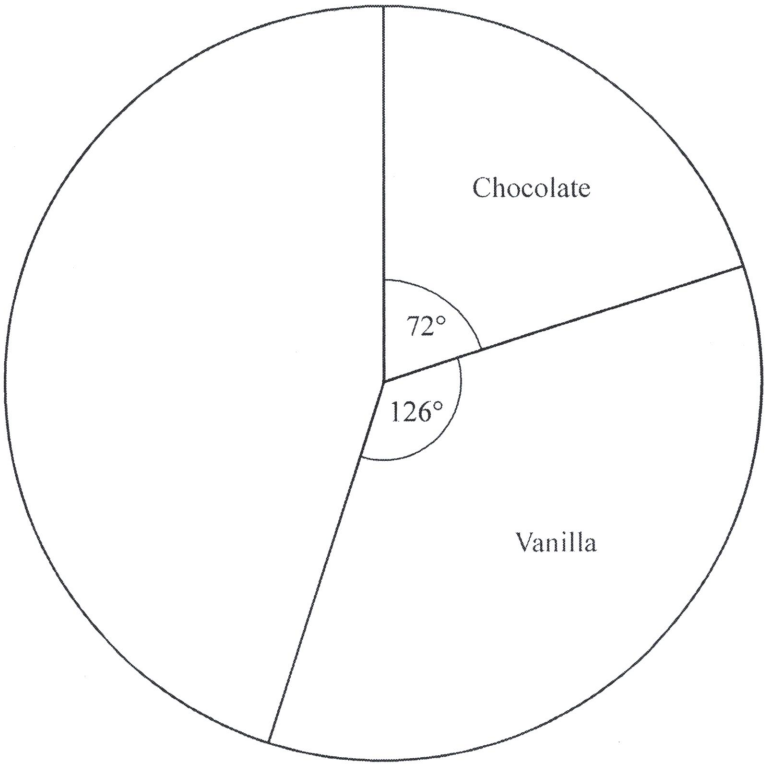
Flavour	Vanilla	Strawberry	Chocolate	Mango
Number sold	6	8	9	7

Michelle wants to show this information in a pie chart.

Calculate the sector angle for mango.

Answer ..... [2]

0 3 Some children chose their favourite ice-cream flavour from chocolate, vanilla, strawberry and banana.
Some of the results are shown in the pie chart below.



(a) 8 children chose chocolate.

Work out the total number of children.

..... [2]

(b) Work out how many children chose vanilla.

..... [2]

(c) The rest of the children chose strawberry or banana.
Twice as many children chose strawberry as chose banana.

Use this information to complete the pie chart.

[2]

(d) Write down the flavour of ice-cream that is the mode.

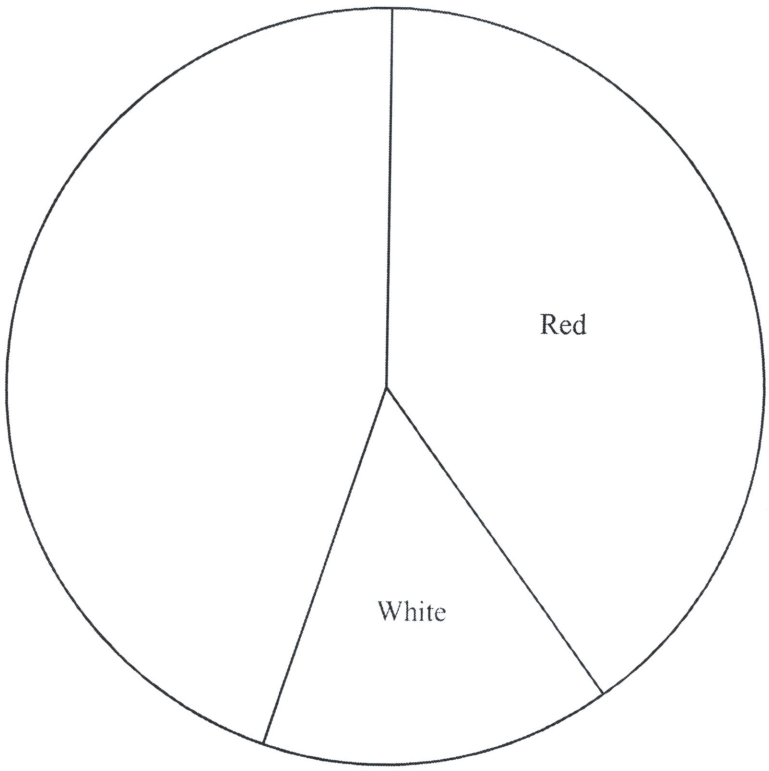
..... [1]

04 The shirt colour of the teams in a football league are shown in the following table.

For Examiner's Use

Colour	Frequency
Red	8
White	3
Blue	7
Gold	2

The pie chart shows some of this information.
The sectors for red shirts and white shirts have been drawn.

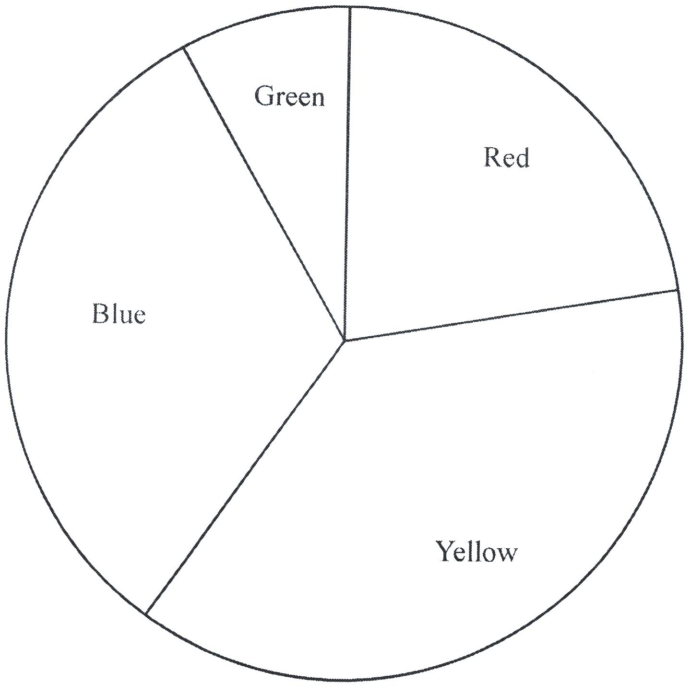


(a) Calculate the angle of the sector for blue shirts.

Answer(a) ..... [2]

(b) Complete the pie chart. [1]

5 All the children in a school are asked to choose their favourite colour.
The pie chart shows the results.



(a) Write down the least favourite colour chosen.

Answer(a) ..... [1]

(b) 27 children choose yellow as their favourite colour.

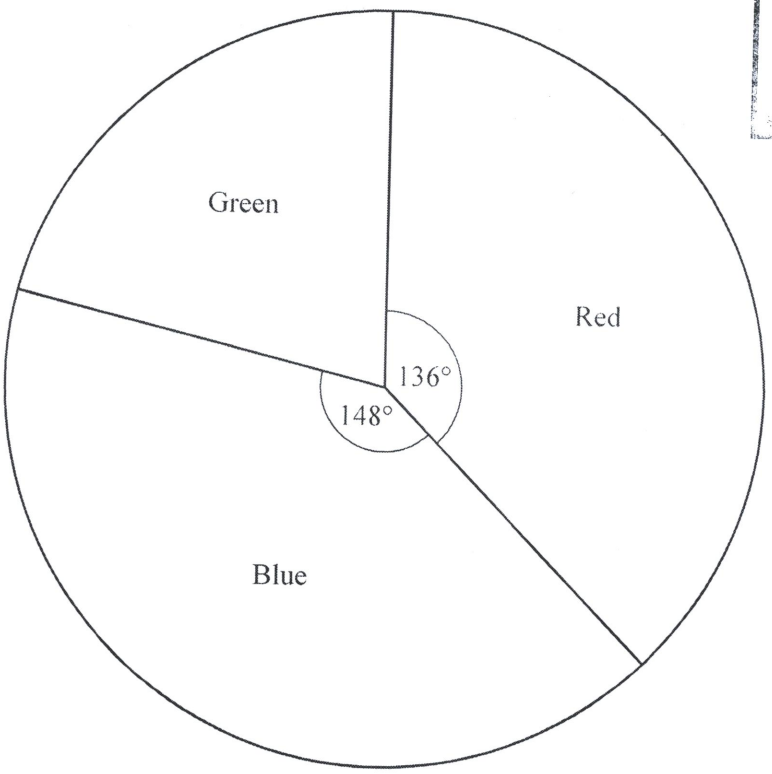
Work out the total number of children in the school.

Answer(b) ..... [3]

(c) Work out the percentage of the children in the school who choose red.

Answer(c) ..... % [2]

6 A bag contains different coloured counters.
Sasha takes a counter at random, records its colour, and replaces it.
She does this 90 times and records her results in the pie chart below.



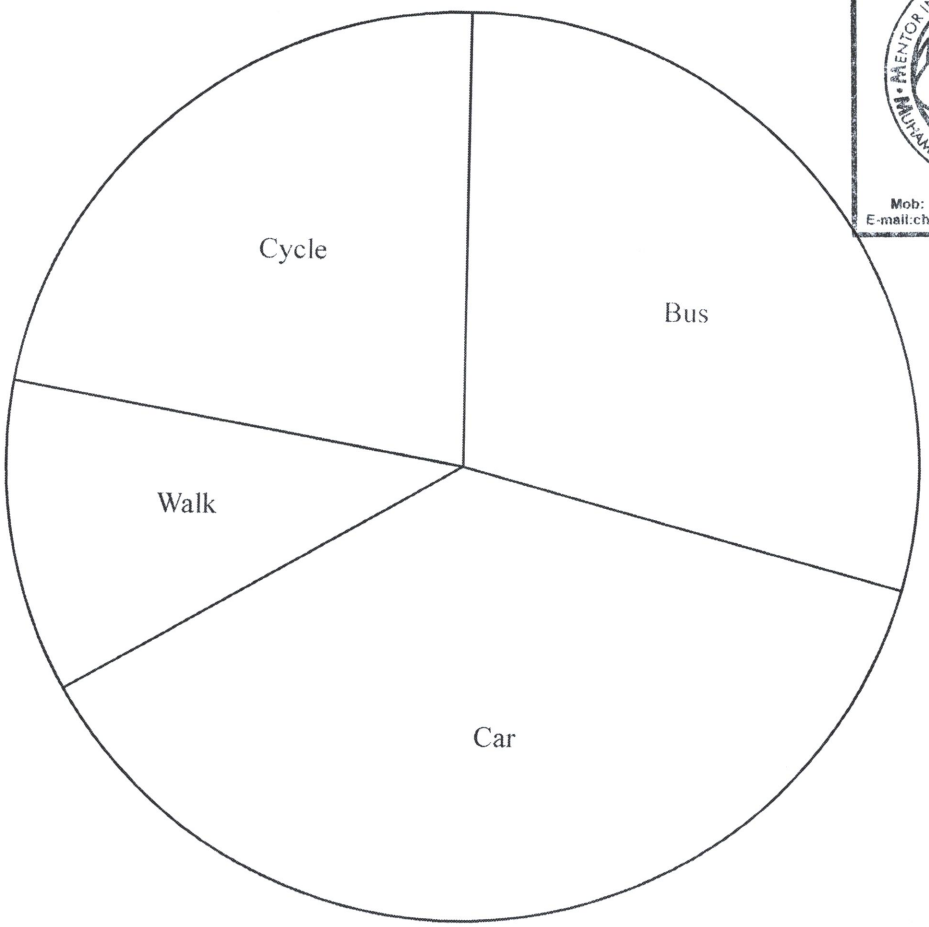
(a) Write down the relative frequency of Sasha choosing a red counter.

Answer(a) ..... [1]

(b) Work out the number of times a green counter is chosen.

Answer(b) ..... [3]

7 120 people are asked how they travel to work.
The pie chart shows the results.



(a) **(i)** Show that 45 people travel by car.

Answer(a)(i)

[2]

(ii) A person is chosen at random from the 120 people.

Find the probability that this person travels to work by bus or by car.

Answer(a)(ii) ..... [2]

(b) One year later, the same 120 people were again asked how they travel to work.

Here is the information.

	Number of people
Walk	x
Cycle	31
Bus	17 more than the number of people who walk
Car	2 times the number of people who walk

(i) Use this information to complete the following equation, in terms of x.

..... = 120 [3]

(ii) Solve the equation to find the number of people who walk to work.

Answer(b)(ii) ..... [3]

0 8 **(a)** The colours of the cars at a car centre are red, blue, green, black and white.
The pie chart shows some information about the number of cars of each colour.

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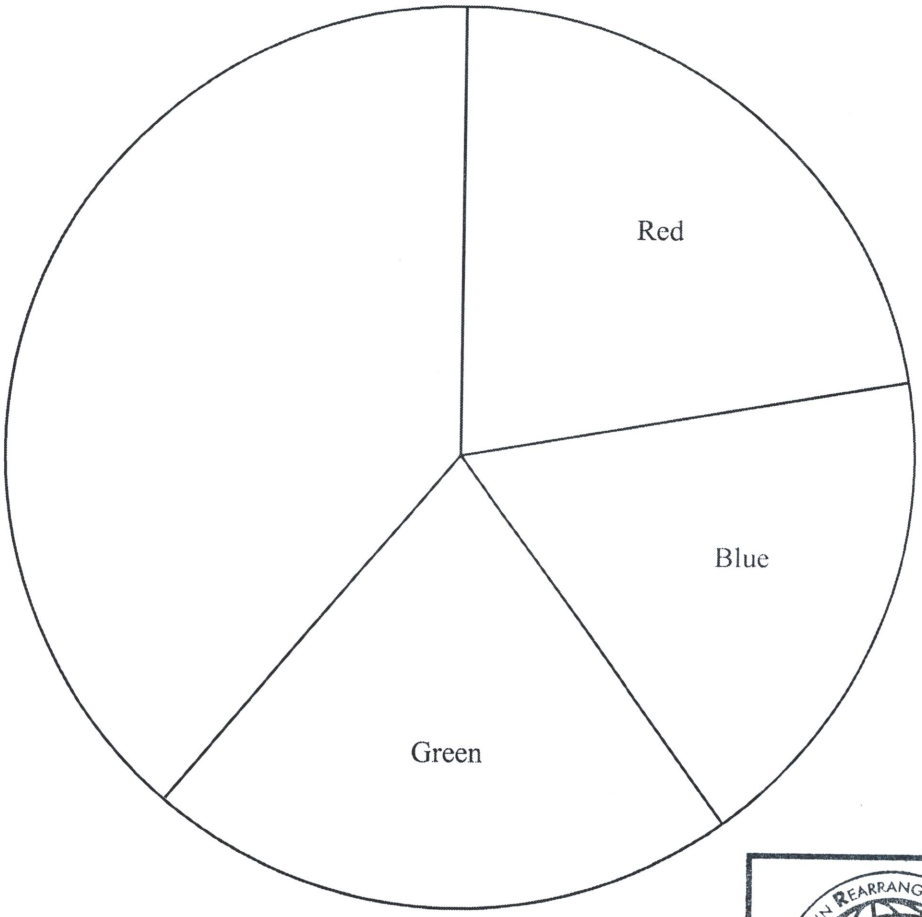


(i) There are 60 red cars.

Show that the total number of cars is 270.

Answer(a)(i)

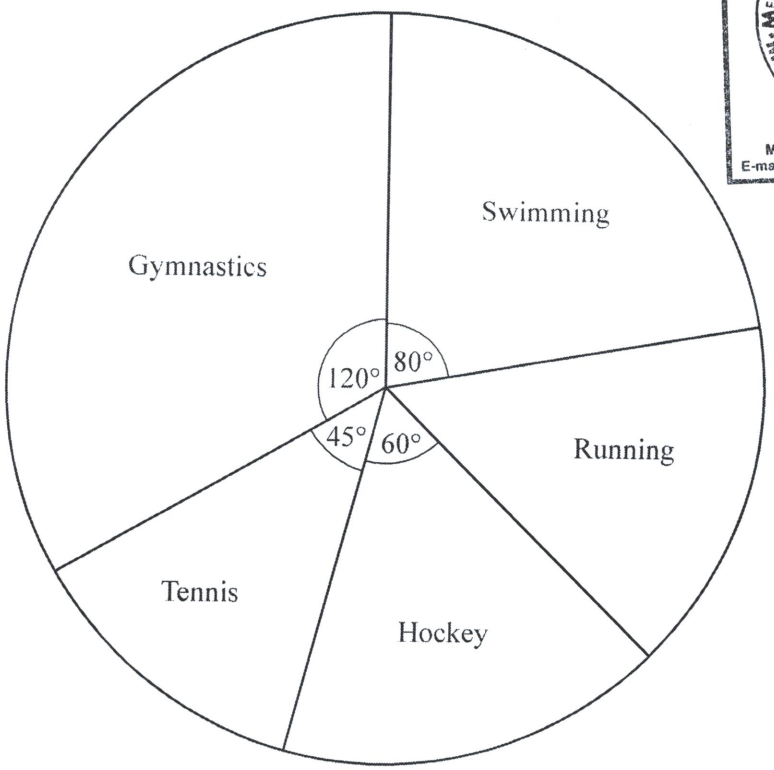
[2]

(ii) Calculate the number of blue cars and the number of green cars.

Answer(a)(ii) Blue .....

Green ..... [3]

09 **(a)** Some children are asked what their favourite sport is.
The results are shown in the pie chart.



(i) Complete the statements about the pie chart.

The sector angle for running is ..... degrees.

The least popular sport is .....

$\frac{1}{6}$ of the children chose .....

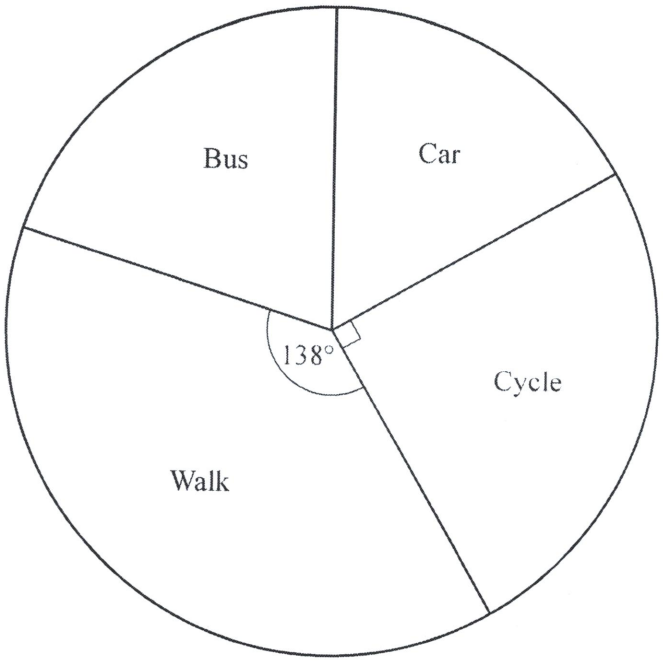
Twice as many children chose ..... as ..... [4]

(ii) Five more children chose swimming than hockey.

Use this information to work out the number of children who chose gymnastics.

Answer(a)(ii)..... [3]

10 **(a)** The pie chart shows how 120 students travel to school.



(i) Measure the sector angle for the students who travel to school by car.

Answer(a)(i) ..... [1]

(ii) What fraction of the students cycle to school?

Answer(a)(ii) ..... [1]

(iii) Calculate how many students walk to school.

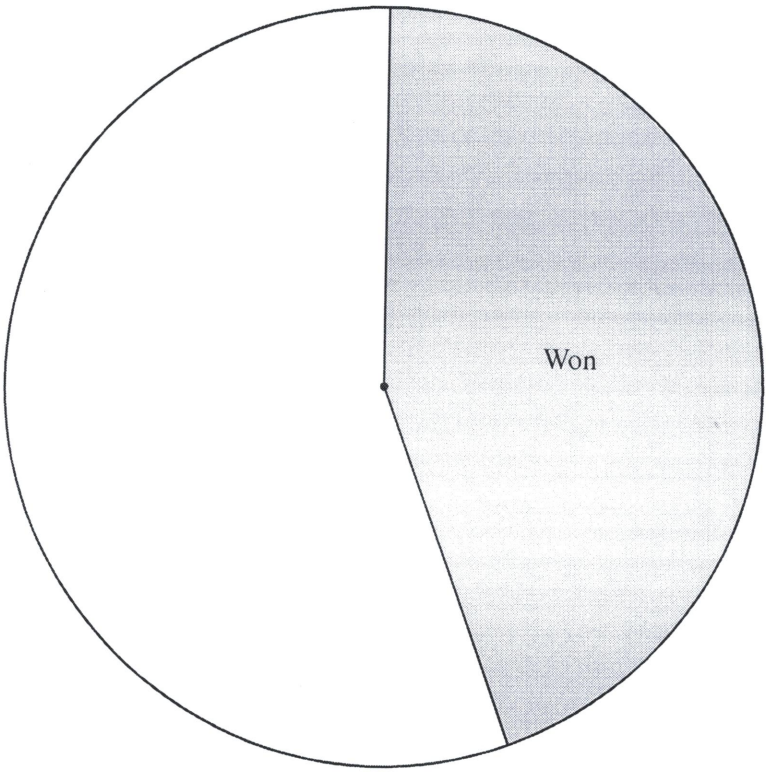
Answer(a)(iii) ..... [2]

11 Last season the team played a total of 45 matches.
The table shows the results of these matches.

Result	Number of matches	Pie chart sector angle
Won	20	160°
Drawn	15	
Lost	10	

(i) Complete the table. [3]

(ii) Complete the pie chart.



[1]

(e) The table shows the total attendance figures for all the teams in the league for two seasons.

Season	Total attendance
A	9.76×10^6
B	1.36×10^7

Work out how much greater the attendance was in season *B* than in season *A*.
Give your answer in standard form.

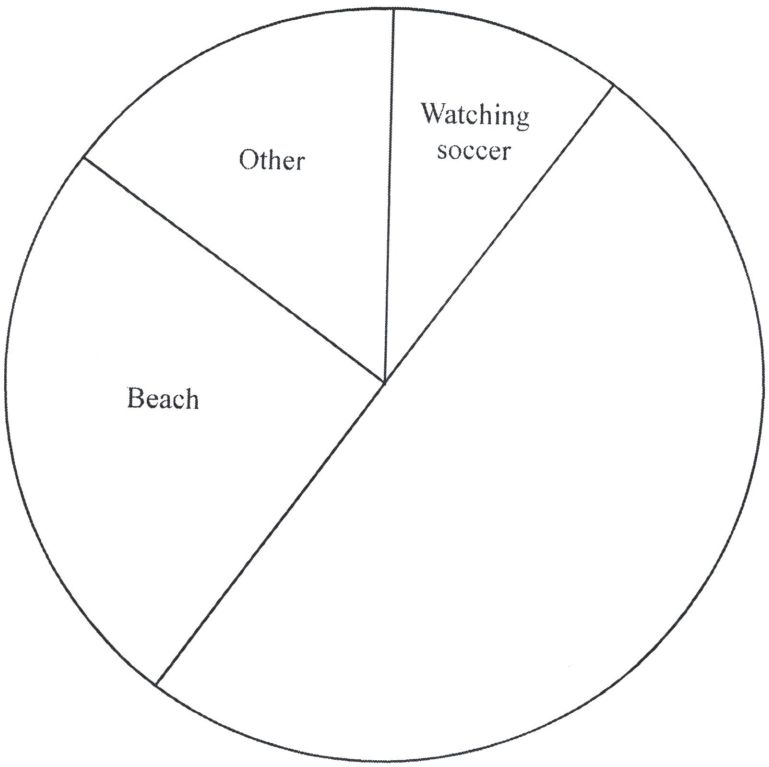
Answer(e) ..... [2]

12 The table shows how Juan and his family spent their time in Rio de Janeiro.

Activity	Percentage of time	Sector angle in a pie chart
Watching soccer	10	36°
Sleeping		108°
Shopping		
Beach	25	90°
Other	15	54°

(i) Complete the table. [3]

(ii) Complete the pie chart.



[1]

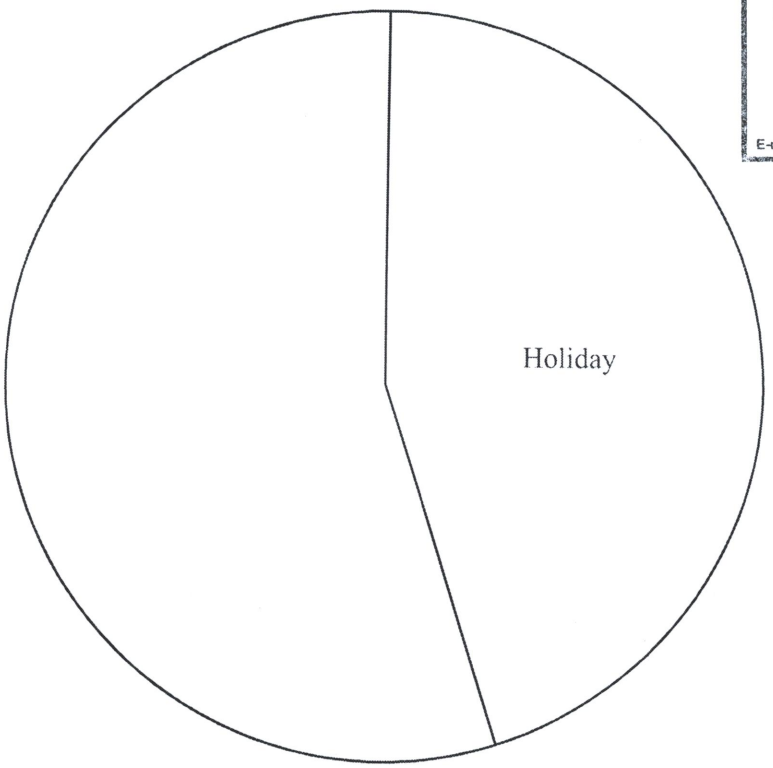
13 Mrs Ali spends a total of $9000 on the following items.

For Examiner's Use

	Amount spent ($)	Angle in pie chart
Holiday	4050	162°
Television		90°
Clothes	1800	72°
Computer		

(i) Complete the table. [3]

(ii) Complete the pie chart.
Label each of your sectors.



[2]