Name: _____

Maths Genie Stage 5

Test A

Instructions

• Use **black** ink or ball-point pen.
• Answer all questions.
• Answer the questions in the spaces provided
– *there may be more space than you need.*
• Diagrams are **NOT** accurately drawn, unless otherwise indicated.
• You must **show all your working out.**
• **Calculators may be used.**

Information

• The marks for each question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

• Read each question carefully before you start to answer it.
• Keep an eye on the time.
• Try to answer every question.
• Check your answers if you have time at the end

1   Nicole is on holiday in France.
She spends €19.50 in a cafe.

The exchange rate is £1 = €1.15

Calculate how much Nicole spends in pounds (£).

£…..................…………........

(Total for Question 1 is 2 marks)

2   Carly and James share some money in the ratio 7 : 4
Carly gets £72 more than James.

Work out how much money James gets.

£ ....

(Total for Question 2 is 3 marks)

3   Solve $4m - 25 = 10 + 9m$

$m = $ ....

(Total for Question 3 is 2 marks)

4   Dermot bakes 250 cakes.
He bakes only vanilla cakes, banana cakes and lemon cakes.
120 of the cakes are vanilla cakes.
34% of the cakes are banana cakes.

Work out the number of lemon cakes Dermot bakes.

....

(Total for Question 4 is 3 marks)

5   Last year Patrick paid £2819 for his annual train ticket.
This year he has to pay £3124 for his annual train ticket.

Work out the percentage increase in the cost of his train ticket.
Give your answer correct to 3 significant figures.

…...…%

(Total for Question 5 is 3 marks)

6   120 students are asked whether they like biology or chemistry or physics best.

65 of the students are in year 11, the rest are in year 10.

45 students like physics best.
26 of the year 11 students like biology best
14 of the 32 students who like chemistry best are in year 10.

Work out how many year 10 students like physics best.

…..........................

(Total for Question 6 is 3 marks)

7 Caleb makes a cola drink.
He is doing a taste test.
He asks 100 people if they prefer cola A or cola B.

52 of the people asked were male.
21 of the 49 people that prefer cola A are female.

(a) Use this information to complete the frequency tree.
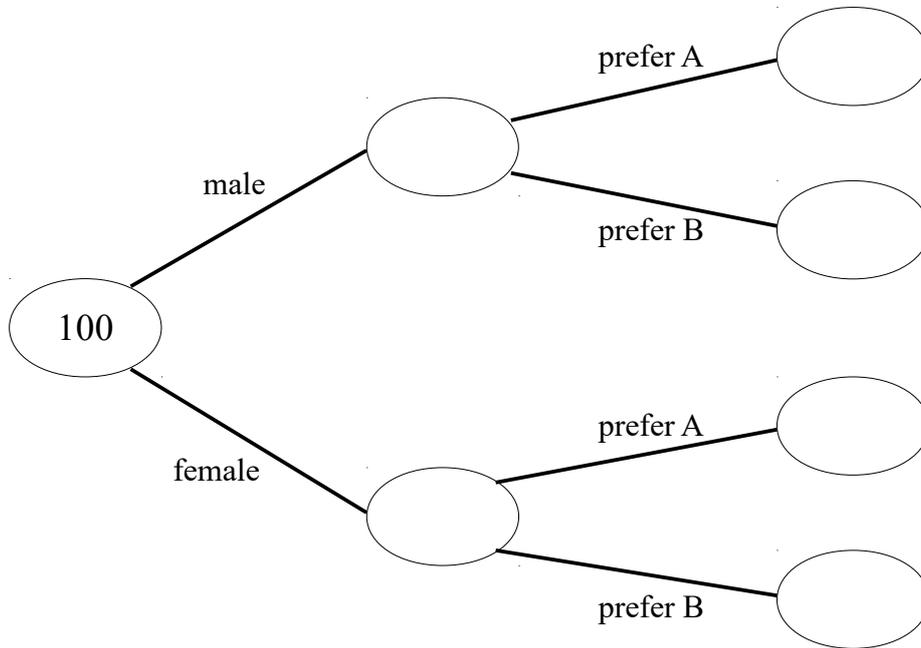

(2)

One of the 100 people is chosen at random.

(b) Write down the probability that this person is male and preferred cola A.

…………………..

(1)

(Total for Question 7 is 3 marks)

8 The table shows some information about the favourite television channel of some people.

Channel	Frequency	Angle of Sector
BBC 1		90°
BBC 2	152	
ITV		
Channel 4	218	
Total	720	

Draw an accurate pie chart to show this information.
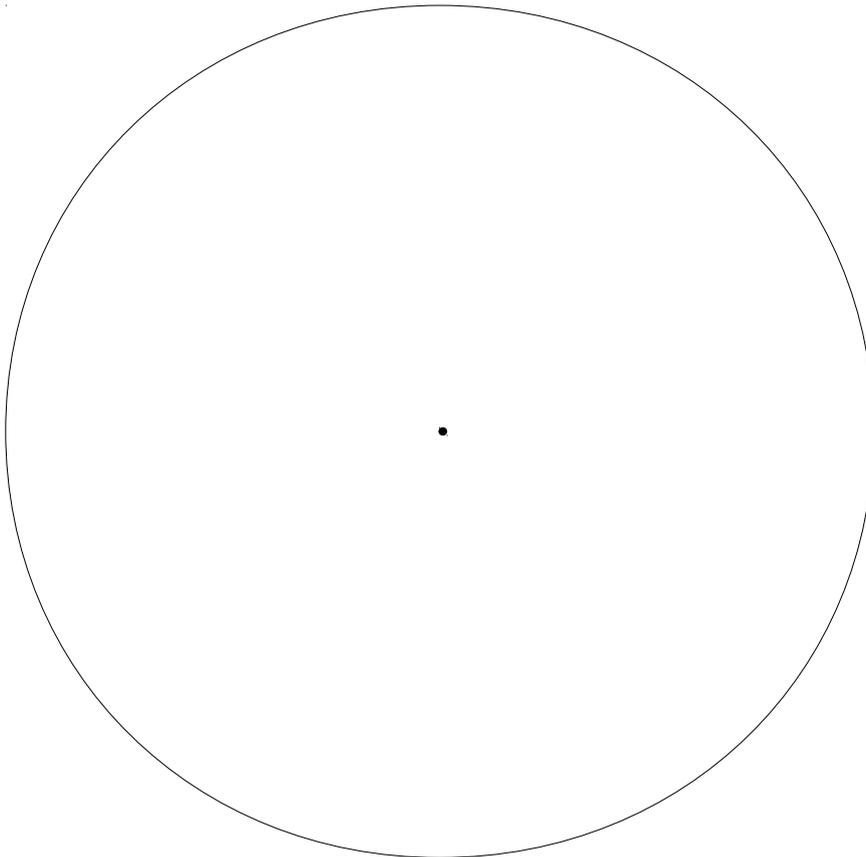
(Total for Question 8 is 3 marks)

9 A circle is enclosed by a square as shown in the diagram.

Each side of the square measures 8cm.

Find the area of the shaded region.

Give your answer correct to 1 decimal place.
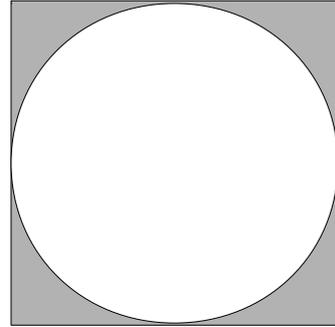
…................…...........................cm^2

(Total for Question 9 is 3 marks)