

Name: _____

Maths Genie Stage 5

Test D

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 Amy is on holiday in Turkey
She changes £250 to Turkish lira.

The exchange rate is £1 = 9.8 Turkish lira

Calculate how many Turkish lira Amy receives

$$250 \times 9.8 = 2450$$

£..... 2450 TL

(Total for Question 1 is 2 marks)

- 2 Banana computers sold 20.3 million computers in 2017.

In 2018, they sold 18.7 million computers.

Work out the percentage decrease in the number of computers sold.

Give your answer to three significant figures.

$$20.3 - 18.7 = 1.6$$

$$\frac{1.6}{20.3} \times 100 = 7.88\%$$

..... 7.88 %

(Total for Question 2 is 3 marks)

- 3 David is paid £28000 per year.
He is going to get a 3% increase in the amount of money he is paid.

Work out how much money David will be paid per year after the increase

$$0.03 \times 28000 = £840$$

$$28000 + 840$$

£..... 28840

(Total for Question 3 is 2 marks)

4

Solve

$$\frac{y}{4} - 8 = 5$$

$$+ 8 \quad + 8$$

$$\frac{y}{4} = 13$$

$$y = 52$$

$$y = 52$$

(Total for Question 4 is 2 marks)

5

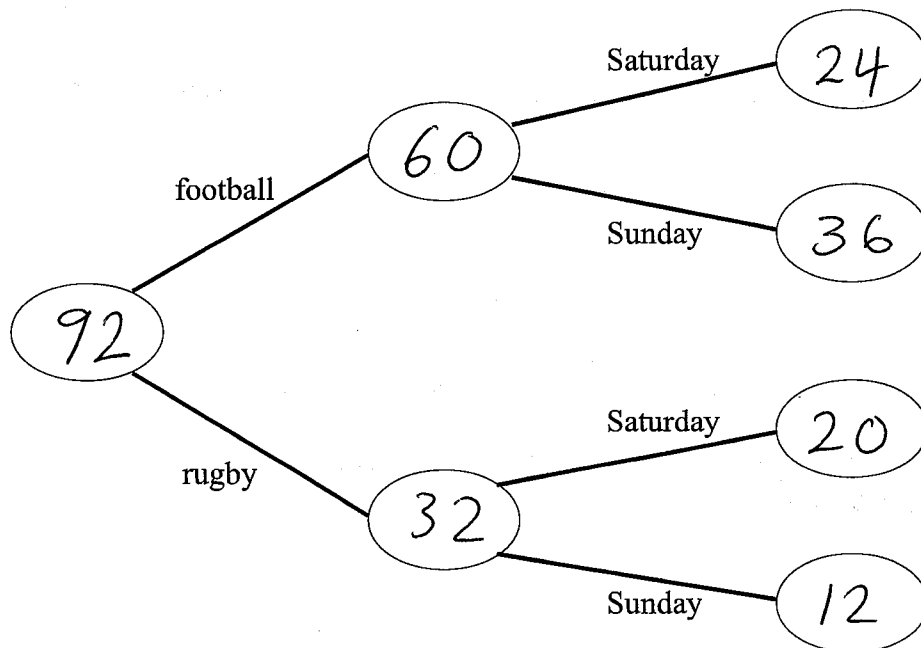
92 students either go to a football club or a rugby club at the weekend.
Each student either goes to the club on Saturday or Sunday.

60 of the students go to a football club.

$\frac{3}{5}$ of the students that go to a football club go on Sunday. $\frac{3}{5} \times 60 = 36$

48 students go to their club Sunday.

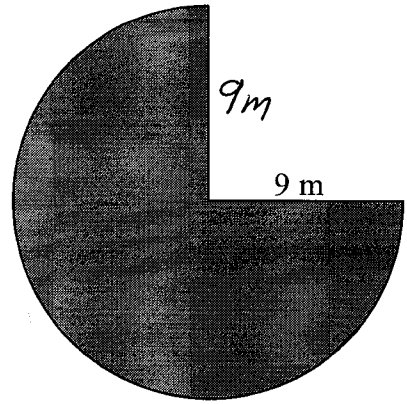
Use this information to complete the frequency tree.



(Total for Question 5 is 4 marks)

- 6 The diagram shows three quarters of a circle with a radius of 9 metres.

Find the perimeter of the shape.



$$\begin{aligned} \text{Circumference} &= 2\pi r \\ &= 2\pi(9) \\ &= 18\pi \text{ m} \end{aligned}$$

$$\frac{3}{4} \times 18\pi = \frac{27}{2}\pi \text{ OR } 42.4 \text{ m}$$

$$42.4 + 9 + 9 = 60.4 \text{ m}$$

..... 60.4 m

(Total for Question 6 is 3 marks)

- 7 Megan is going to make a drink using the instructions below.

Mix 2 parts of fruit juice
with 5 parts of sparkling water

Megan has 180 ml of fruit juice and 460 ml of sparkling water.

What is the greatest amount of the drink Megan can make?

180 ml

FRUIT JUICE

$$\begin{array}{l} \times 90 \downarrow \quad 2 : 5 \quad \downarrow \times 90 \\ 180 : 450 \end{array}$$

180 ml FRUIT JUICE + 450 ml WATER

$$180 + 450 = 630 \quad \text{..... } 630 \text{ ml}$$

(Total for Question 7 is 3 marks)

8

The table shows some information about the favourite biscuits of some people.

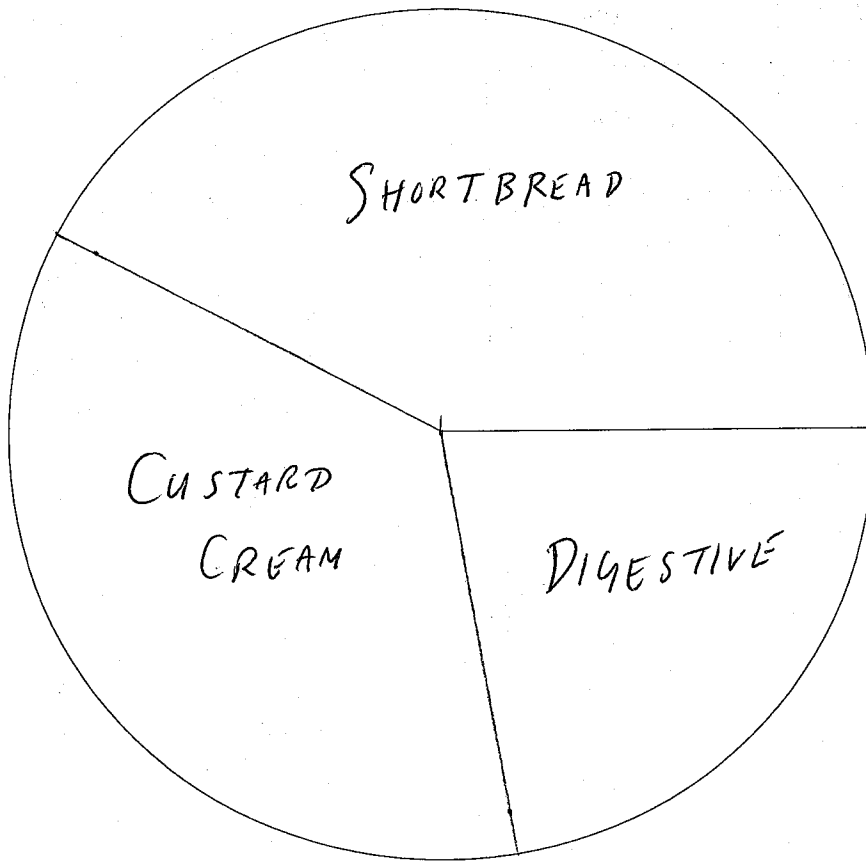
Biscuit	Digestive	Custard Cream	Shortbread	
Frequency	10	16	19	45
	$\times 8$	$\times 8$	$\times 8$	$\times 8$
<i>Degrees</i>	80	128	152	360

(a) Which type of biscuit is the mode?

Shortbread

(1)

(b) Draw an accurate pie chart to show this information.



(3)

(Total for Question 9 is 4 marks)

10 100 students in year 7 either study French or German or Spanish.

48 of the students are boys and the rest are girls.

15 boys study German.

16 boys and 19 girls study French.

A total of 30 students study Spanish.

Work out how many girls study Spanish.

	French	German	Spanish	Total
Boys	16	15	17	48
Girls	19	20	13	52
Total	35	35	30	100

.....13.....

(Total for Question 10 is 3 marks)