

Name: _____

Maths Genie Stage 4

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 not 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 (a) Write the ratio 72 : 120 in its simplest form.

.....
(1)

(b) In February, it rained on $\frac{4}{7}$ of days

Write the ratio of the days it rained to the number of days it did not rain.

.....
(1)

(Total for Question 1 is 2 marks)

2 Find 21% of £160

£.....

(Total for Question 2 is 2 marks)

3 Work out $\frac{5}{6}$ of 42

.....
(Total for Question 3 is 2 marks)

4 Here is a number machine.



(a) What is the **output** when the **input** is -5?

.....
(1)

(b) What is the **input** when the **output** is 20?

.....
(1)

(c) Show that there is a value of the input for which the input and the output have the same value.

(2)

(Total for Question 4 is 4 marks)

5 A model car has the length of 12.5 cm.

The scale of the model is 1:40

Work out the length of the real car.
Give your answer in metres.

.....m

(Total for Question 5 is 2 marks)

6 (a) Work out $\frac{5}{9} \div \frac{3}{7}$

Give your answer as a mixed number in its simplest form.

.....
(2)

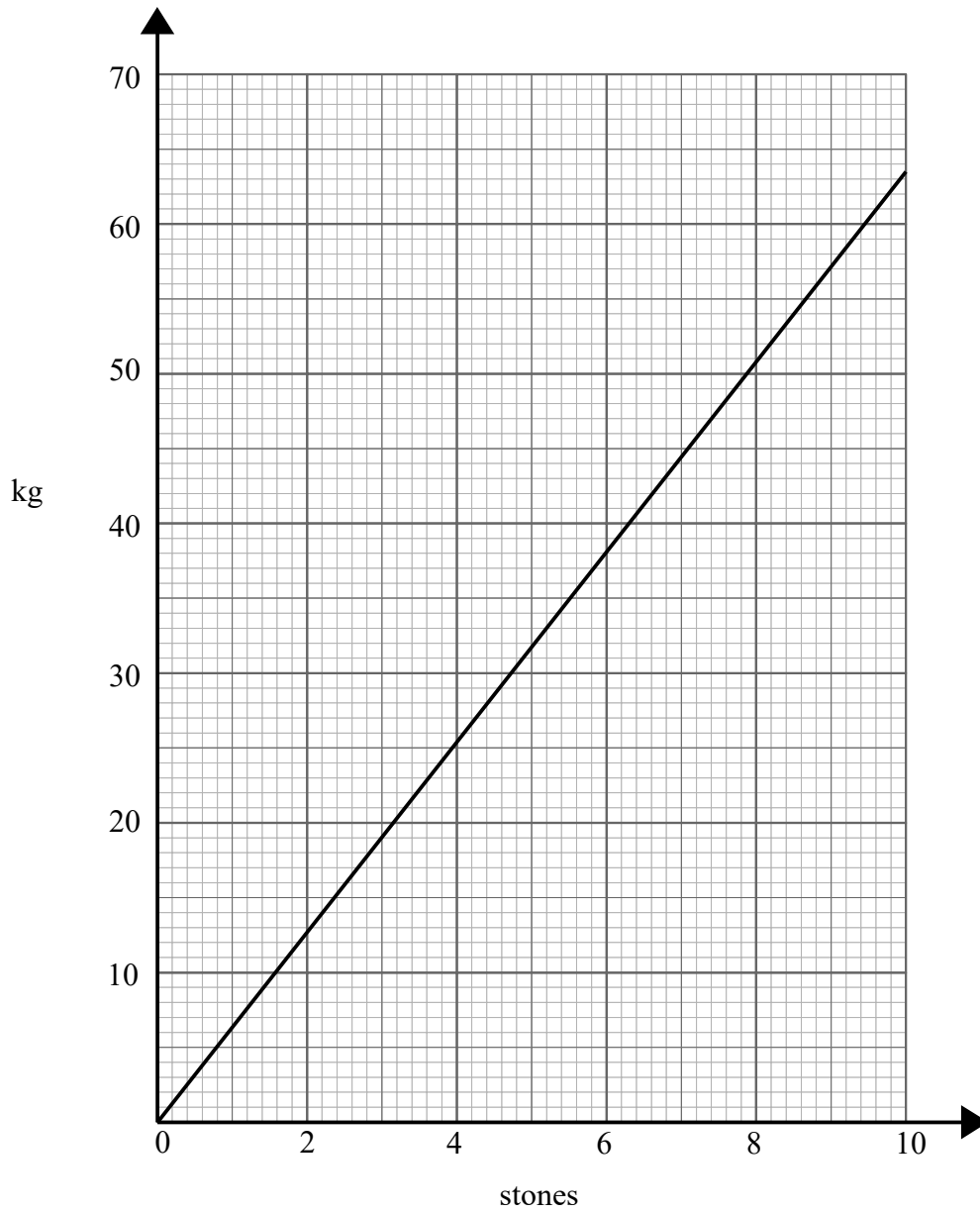
(b) Work out $1\frac{4}{5} \times \frac{3}{8}$

.....
(2)

(Total for Question 6 is 4 marks)

7

You can use this graph to change between stones and kilograms.



(a) Change 8 stones to kilograms.

..... kg
(1)

(b) Change 75 kilograms to stones.

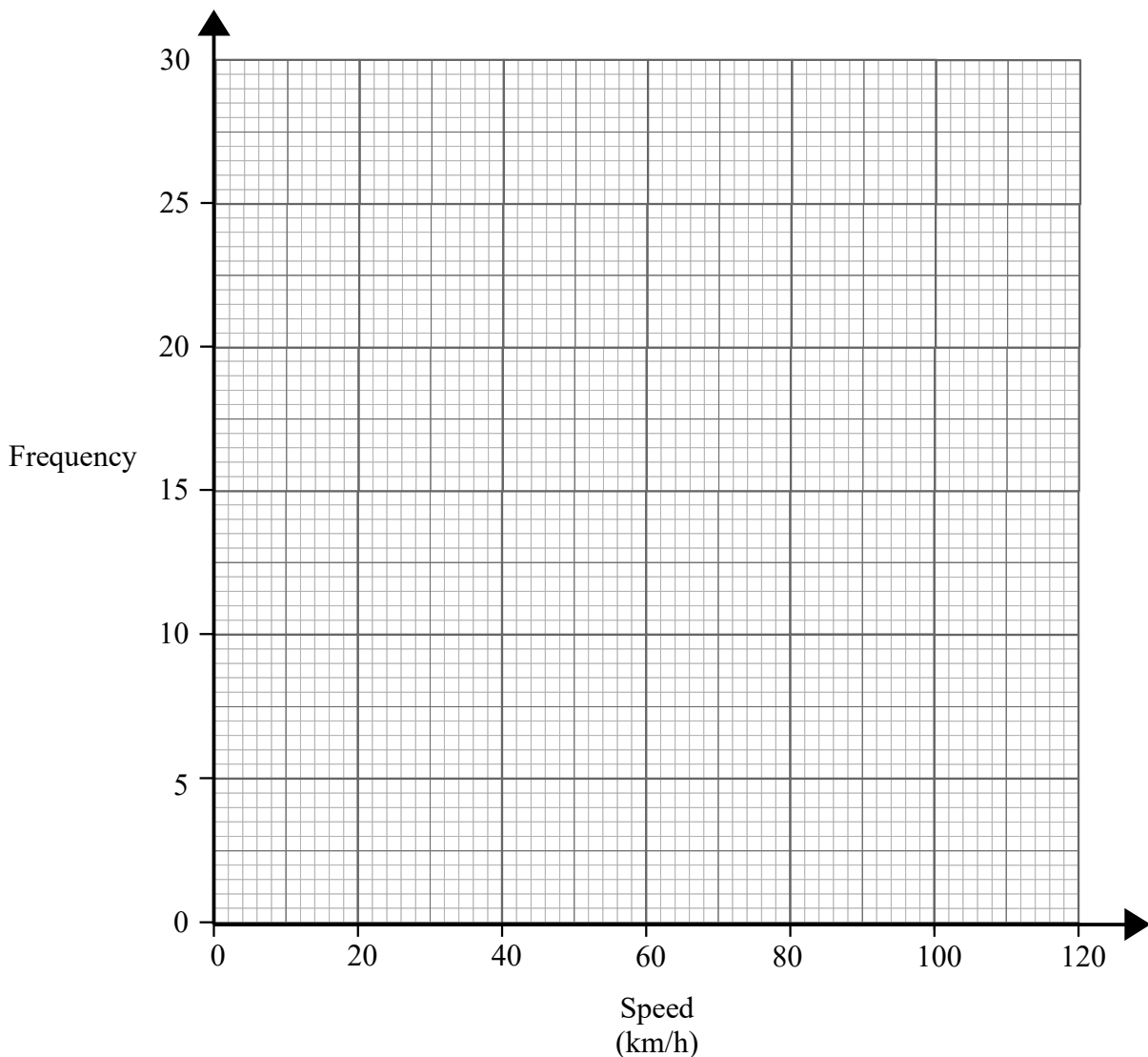
..... stones
(2)

(Total for Question 7 is 3 marks)

8 The frequency table shows the speeds of 100 cars.

Speed (km/h)	Frequency
$0 < s \leq 20$	3
$20 < s \leq 40$	14
$40 < s \leq 60$	28
$60 < s \leq 80$	21
$80 < s \leq 100$	17
$100 < s \leq 120$	6

Draw a frequency polygon to show this information.



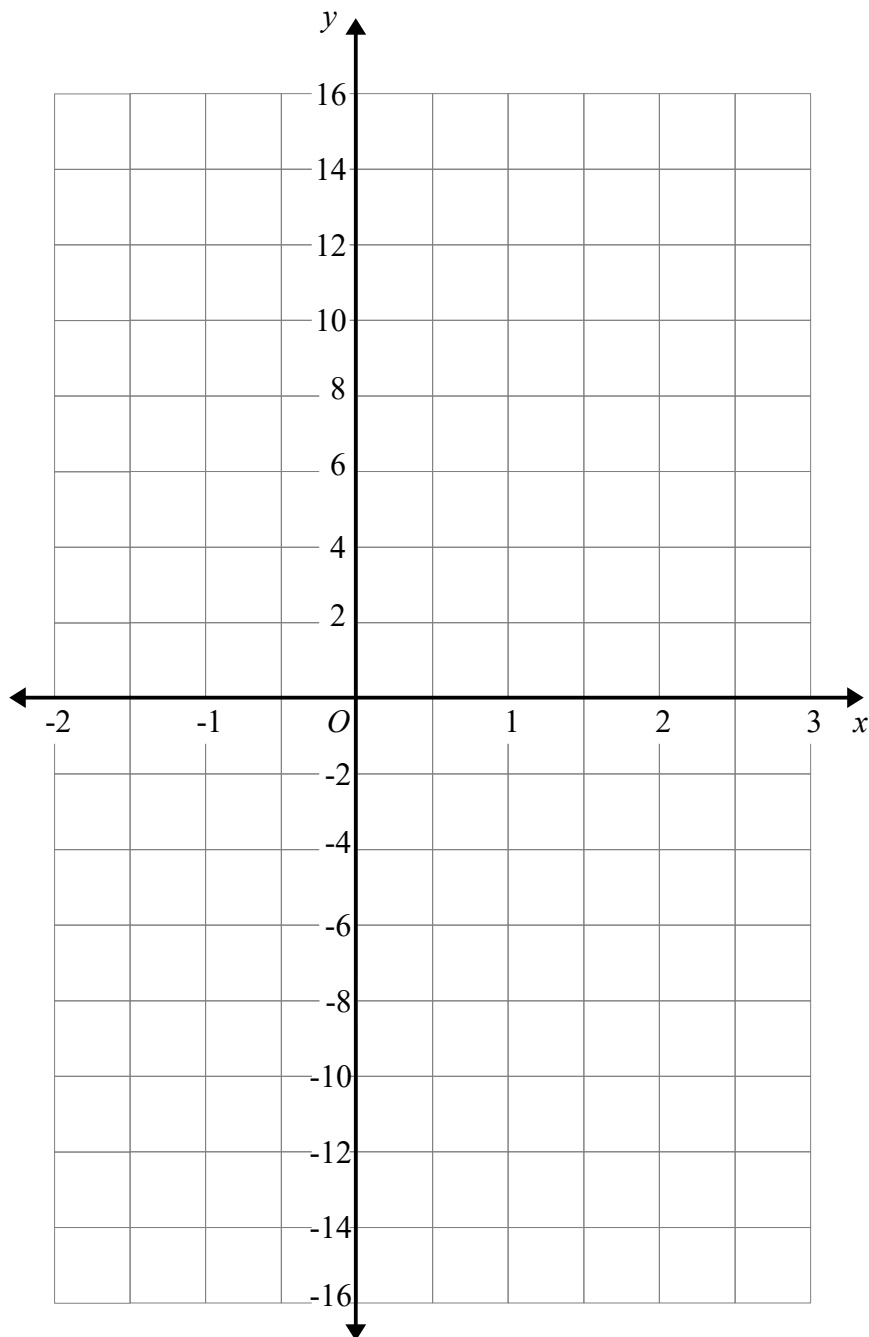
(Total for Question 8 is 2 marks)

9 (a) Complete the table of values for $y = 6x - 2$

x	-2	-1	0	1	2	3
y						

(2)

(b) On the grid, draw the graph of $y = 6x - 2$ for values of x from -2 to 3



(2)

(Total for Question 9 is 4 marks)