



Please write clearly in block capitals.

Centre number

Candidate number

Surname \_\_\_\_\_

Forename(s) \_\_\_\_\_

Candidate signature \_\_\_\_\_

I declare this is my own work.

# Functional Skills Level 2

## MATHEMATICS

### Paper 1 Non-Calculator

Monday 13 January 2020

Morning

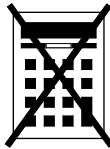
Time allowed: 30 minutes

#### Materials

For this paper you must have:

- mathematical instruments.

You must **not** use a calculator.



#### Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.
- State the units of your answer where appropriate.

#### Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 20.
- You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.

#### Advice

In all calculations, show clearly how you work out your answer.

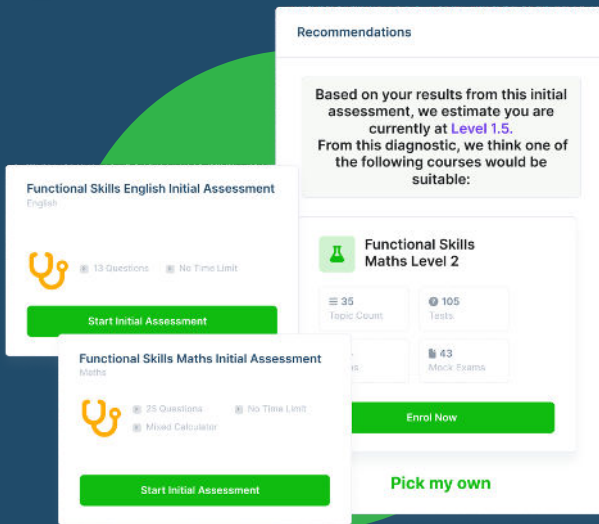
For Examiner's Use	
Question	Mark
1–5	
6	
<b>TOTAL</b>	



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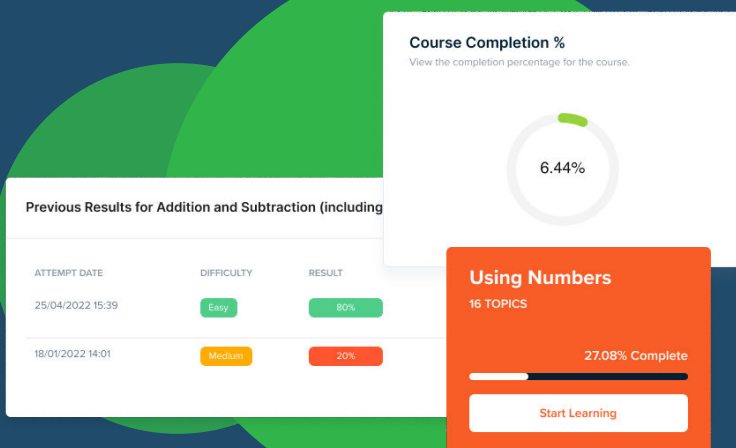
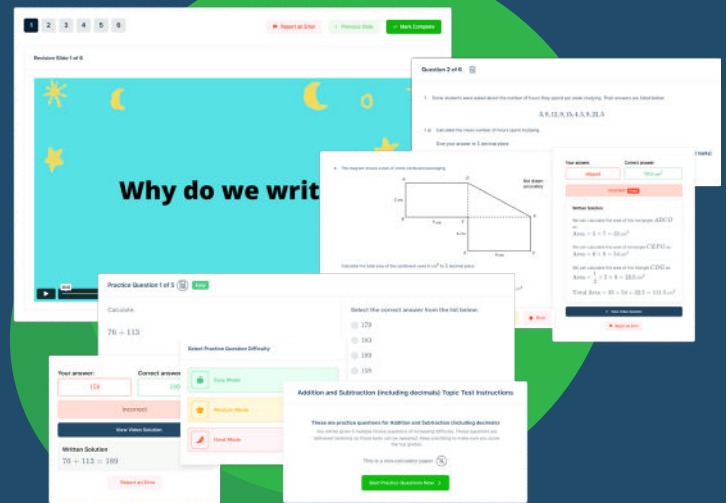


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## Section A

Answer **all** questions in the spaces provided.

- 1 Here are nine numbers.

~~1~~ ~~2~~ ~~2~~ ~~4~~ 6 ~~7~~ ~~7~~ ~~7~~ ~~9~~

Work out the median.

Circle your answer.

→ middle no.

[1 mark]

5

6

7

8

- 2 Put the following numbers in order, starting with the **smallest**.

5    -9    -2    7    -6    1

[2 marks]

Answer -9 , -6 , -2 , 1 , 5 , 7

- 3 Circle the value of  $4y^2$  when  $y = -3$

-144

-36

36

144

$$(-3)^2 = 9$$

$$9 \times 4 = 36$$

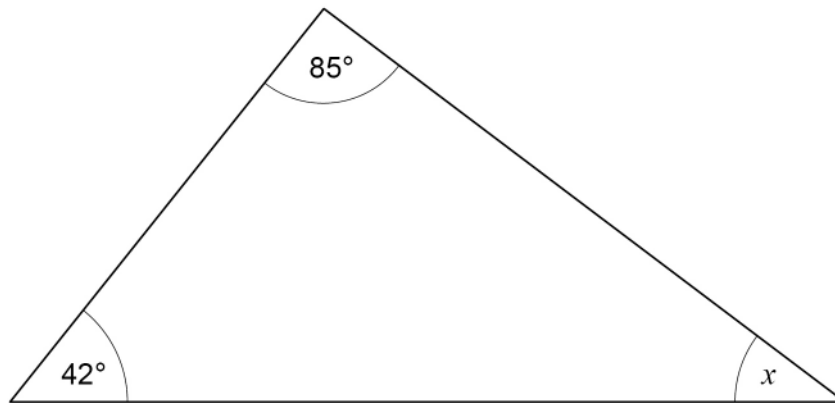
[1 mark]



- 4 Work out the size of angle  $x$ .

[2 marks]

Not drawn  
accurately



$$180 - 42 - 85 = 53$$

Answer 53 °

- 5 Work out  $61 - 4 \times 2^3$

[2 marks]

$$2^3 = 2 \times 2 \times 2 = 8$$

$$4 \times 8 = 32$$

$$61 - 32 = 29$$

Answer 29

8

Turn over ►



**Section B**

Answer **all** questions in the spaces provided.

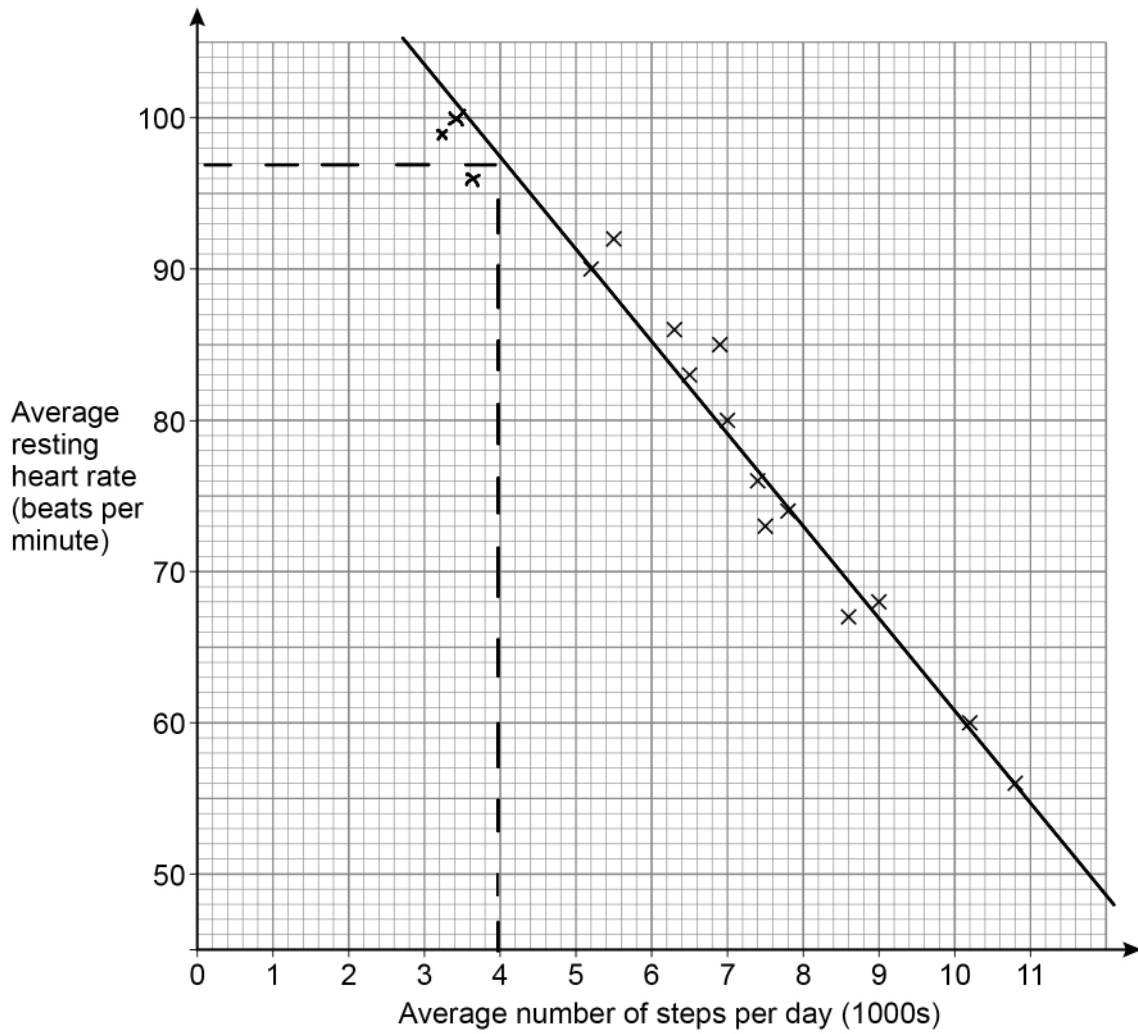
**6 Fitness**

Laura has a company with 16 employees.

Each employee has a device that records

- how many steps they take each day
- their resting heart rate.

**6 (a)** The scatter diagram represents the data for 13 of the employees.



The table shows the extra data for the other 3 employees.

Average number of steps per day	Average resting heart rate (beats per minute)
3600	96
3400	100
3100	99

Laura takes an average of 4000 steps per day.

Use the scatter diagram **with the extra data** to estimate Laura's average resting heart rate.

Give the units of your answer.

You **must** show your working, which should be on the diagram.

[5 marks]

Answer 97 beats per minute

Question 6 continues on the next page

Turn over ►



6 (b) In total, the 16 employees had 70 days of sick leave last year.

Each day of sick leave costs the company £130

Laura thinks that increasing the wellbeing of the employees may reduce the number of days of sick leave.

She pays for gym membership for the 16 employees.

The cost for each employee is £15 per **month**.

Laura says,

“If the number of days of sick leave is reduced by 40% we will save over £750 per **year** after paying for the gym membership.”

Is she correct?

You **must** show your working.

[7 marks]

$$70 \times 130 = 70 \times 100 + 70 \times 30$$

$$= 7000 + 2100 = 9100$$

$$1 - 0.4 = 0.6$$

$$0.6 \times 9100 = (9100 \div 10) \times 6$$

$$= 910 \times 6 = 5460$$

$$5460 + 16 \times 15 \times 12 = 5460$$

$\uparrow$  Sick days                       $\uparrow$  gym                      + 2880  
 = 8340

$$9100 - 8340 = 760$$

Yes, she saves 760



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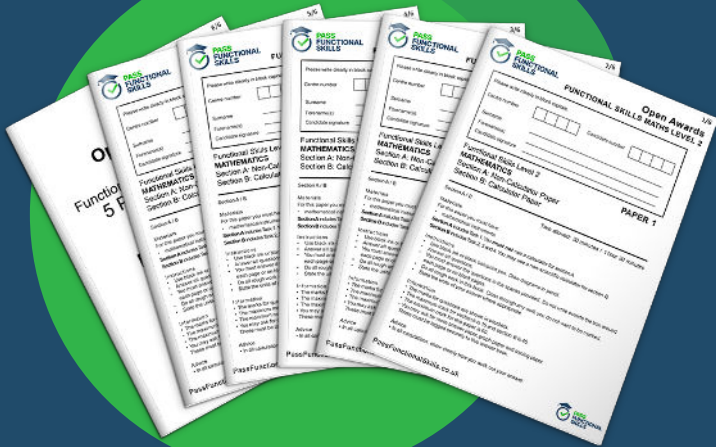


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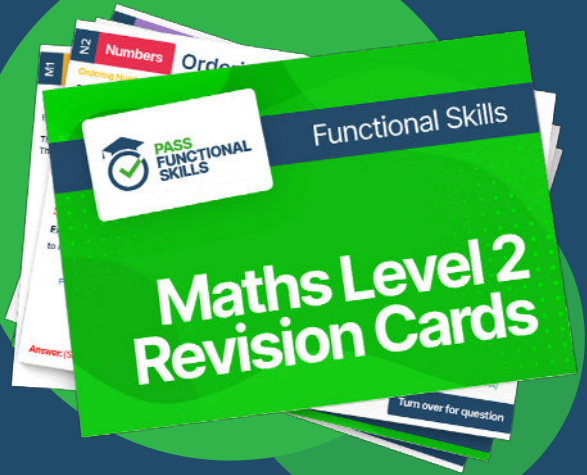
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