



Please write clearly in block capitals.

Centre number

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Candidate number

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Surname

---

Forename(s)

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Candidate signature

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I declare this is my own work.

# Functional Skills Level 1

## MATHEMATICS

Paper 2 Calculator

Time allowed: 1 hour 30 minutes

### Materials

For this paper you must have:

- a calculator
- mathematical instruments.



### 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 60.
- 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
1-7	
8	
9	
10	
11	
<b>TOTAL</b>	



M A R 2 2 8 3 6 1 2 0 1

IB/G/Mar22/E10

**8361/2**  
**QAN 603/4257/2**



# FUNCTIONAL SKILLS ONLINE COURSES

- ✓ Your answers are analysed to determine your Current Level
- ✓ Suggested courses for you to enrol on based on your calculated level
- ✓ Always know the level you are currently working at
- ✓ Determine when you are ready to sit your exam

Recommendations

Based on your results from this initial assessment, we estimate you are currently at **Level 1.5**. From this diagnostic, we think one of the following courses would be suitable:

Functional Skills English Initial Assessment  
English  
13 Questions | No Time Limit  
Start Initial Assessment

Functional Skills Maths Initial Assessment  
Maths  
25 Questions | Mixed Calculator | No Time Limit  
Start Initial Assessment

Functional Skills Maths Level 2  
35 Topic Count | 105 Tests  
43 Mock Exams  
Enrol Now

Pick my own

- ✓ Explainer videos on every topic
- ✓ Quick-fire style multiple choice questions
- ✓ Test your knowledge with exam-style questions
- ✓ Written solutions for all questions

Why do we write...

Practice Question 1 of 5  
Calculation  
 $76 + 113 = 189$

Selected the correct answer from the list below:  
129  
183  
189  
154

Addition and Subtraction (including decimals) Topic Test Instructions  
These are practice questions for Addition and Subtraction (including decimals). They will get you to familiarise yourself with the format of the questions. These questions are intended to be used as a guide only. Please do not use them for your final exam.

Written Solution  
 $76 + 113 = 189$

Course Completion %  
View the completion percentage for the course.

6.44%

Using Numbers  
16 TOPICS  
27.08% Complete  
Start Learning

Previous Results for Addition and Subtraction (including decimals)

ATTEMPT DATE	DIFFICULTY	RESULT
25/04/2022 15:39	Easy	80%
18/01/2022 14:01	Medium	20%

- ✓ See your progress through as you progress through each topic area
- ✓ Get your average scores for practice questions, topic tests and mock exams
- ✓ View all practice question, topic test and mock exam attempts over time
- ✓ View historical attempts to analyse your progress over time

Or visit  
[passfunctionalskills.co.uk](https://passfunctionalskills.co.uk)

Section A

Do not write  
outside the  
box

Answer all questions in the spaces provided.

1 Write these numbers in order of size, starting with the **smallest**. [1 mark]

67492                  351968                  472410                  92836

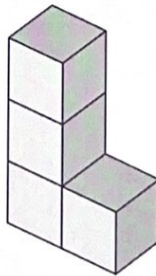
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Answer 67492 , 92836 , 351968 , 472410

2 This shape is made using four cubes.



Circle the letter of the plan view.

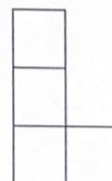
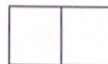
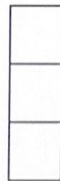
[1 mark]

A

B

C

D





3

3 Round 17.834 to 2 decimal places.

[1 mark]

Do not write  
outside the  
boxAnswer 17.83

4 Circle the fraction equal to 0.75

[1 mark]

$\frac{1}{4}$

$\frac{3}{4}$

$\frac{5}{7}$

$\frac{7}{5}$

5 Work out  $24^2 + 37^2$ 

[2 marks]

$$24^2 = 24 \times 24 = 576$$

$$37^2 = 37 \times 37 = 1369$$

$$576 + 1369 = 1945$$

Answer 1945

Turn over ►



0 3

6

Increase 78 by 35%

[3 marks]

Do not write  
outside the  
box

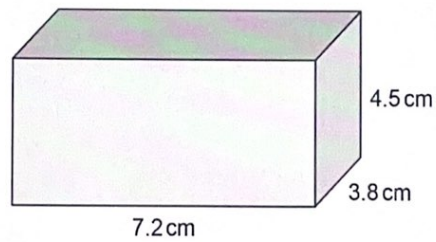
$$78 \times 1.35 = 105.3$$

Answer 105.3

7

Work out the volume of this cuboid.  
State the units of your answer.

[3 marks]



$$7.2 \times 3.8 \times 4.5 = 123.12 \text{ cm}^3$$

Answer 123.12 cm<sup>3</sup>

12



## Section B

Answer all questions in the spaces provided.

## 8 School trips

Mr Nagah and Miss Burns are geography teachers.

They are planning a trip for 34 students to a field centre.

## 8 (a) Mr Nagah and Miss Burns will go on the trip.

There must be at least 1 teacher for every 8 students on the trip.

How many **more** teachers are needed?You **must** show your working.

[3 marks]

$$34 \div 8 = 4.25$$

So need 5 teachers total.

$$5 - 2 = 3$$

So need 3 more teachers.

Answer

3

Turn over ►





Do not write  
outside the  
box

8 (b) Mr Nagah is working out the time they should leave school for the field centre.  
He makes these notes.

It will take one and a half hours to get to the field centre  
The students will need 20 minutes to unpack  
We will then have 45 minutes for lunch  
We must be ready for our first activity at 1 pm

Work out the latest time they can set off.

[4 marks]

$13:00 - 45 \text{ min} = 12:15$   
 $12:15 - 20 \text{ min} = \del{11:55} \quad 11:55$   
 $11:\del{55} - 1.5\text{h} = 10:25$

Answer 10:25



- 8 (c) The total cost of the trip is £3265  
The geography department pays 20% of this cost.  
The rest of the cost is shared equally by the 34 students.  
Work out how much each student has to pay.  
Give your answer to the nearest pound.

Do not write  
outside the  
box

[5 marks]

$$3265 \times 0.8 = 2612$$

$$2612 \div 34 = \pounds 76.82\dots$$

$$\approx \pounds 77.$$

Answer £

77

12

Turn over for the next question

Turn over ►

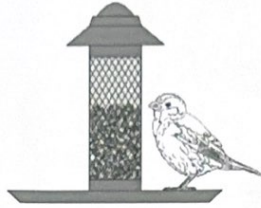


0 7



9 **Garden Birds**

Simon has a bird feeder in his garden.

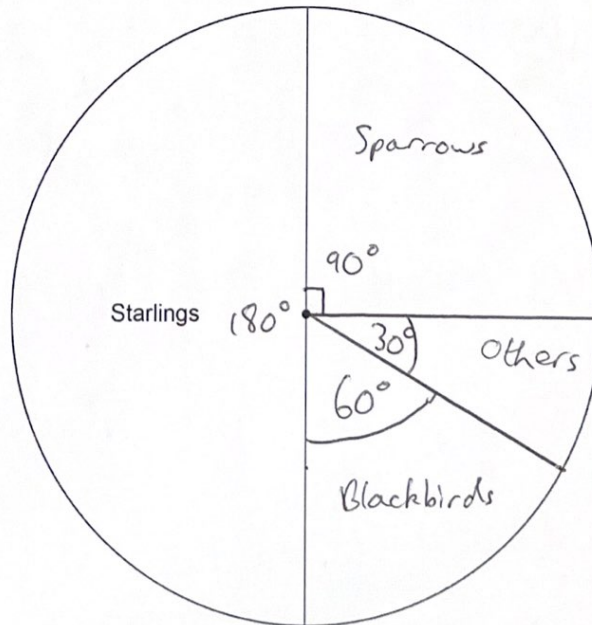


- 9 (a) On Monday Simon records the types of birds that visit his bird feeder. He uses this table to work out the angles needed for a pie chart.

	Number	Angle (degrees)
Starlings	18	180
Sparrows	9	90
Blackbirds	6	60
Others	3	30
	<b>Total = 36</b>	<b>360</b>

Complete the pie chart.

[4 marks]



- 9 (b) Simon takes a photo of each of the 36 birds that visit the bird feeder on Monday. He decides to choose one of the photos at random.

Simon says,

"The probability that the photo is of a sparrow is more than  $\frac{1}{3}$ "

Is Simon correct?

You **must** show your working.

[2 marks]

$$\text{Probability} = \frac{9}{36} \leftarrow \text{Sparrows}$$

---

$$\frac{9}{36} \leftarrow \text{Total}$$

$$\frac{9}{36} = \frac{1}{4} \text{ which is less than } \frac{1}{3}$$

No, Simon is not correct.

Question 9 continues on the next page

Turn over ►



- 9 (c) Simon counts the birds he sees at the feeder each day for the rest of the week.

Day	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Number of birds	36	25	30	42	44	26	56

In the same week last year, the mean number of birds per day was 39

This year, has the mean increased, decreased or stayed the same?

Tick (✓) one box.

increased

decreased

stayed the same

Show working to support your answer.

[4 marks]

$$36 + 25 + 30 + 42 + 44 + 26 + 56$$

$$= 259$$

$$259 \div 7 = 37$$

$37 < 39$  so there has been a decrease.





- 9 (d) Each day, Simon puts 125 grams of bird seed in the bird feeder.  
He says,

"A 2.8 kilogram bag of seed will last for more than 3 weeks."

Is Simon correct?

You **must** show your working.

[4 marks]

$$3 \text{ weeks} = 3 \times 7 = 21 \text{ days.}$$

$$125 \times 21 = 2625 \text{ g needed}$$

$$2625 \text{ g} = 2625 \div 1000 = 2.625 \text{ kg.}$$

$$2.625 < 2.8$$

Simon is correct

14

Turn over for the next question

Turn over ►



**10 Photographer**

Liam is a photographer.

- 10 (a)** Liam is asked to take photos at Molly's party.  
He uses this formula to work out his fee.

$$\text{Fee} = \text{£}40 + \text{number of photos} \times \text{£}3.75$$

Molly wants 18 photos.

She gives Liam six £20 notes.

How much change should she get?

**[4 marks]**

$$40 + 18 \times 3.75 =$$

$$40 + 67.5 =$$

$$\text{£} 107.50$$

$$6 \times \text{£}20 = \text{£}120$$

$$120 - 107.5 = \text{£}12.50$$

Answer £ 12.50



- 10 (b) Liam also takes school photos.  
He sells the photos in four different pack sizes, A, B, C and D.  
Liam kept a tally of the packs he sold one day.

Pack	Tally	Frequency
A		22
B		9
C		6
D		14

Liam says,

"I sold **more than** four times as many of pack A as I did of pack C."

Is he correct?

You **must** show your working.

[3 marks]

$$6 \times 4 = 24$$

$$24 > 22$$

Liam is incorrect.

Turn over ►





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box


10 (c) Liam wants to arrange six photos on a display board in his studio.  
The board is a rectangle with width 120 cm and height 140 cm  
He has

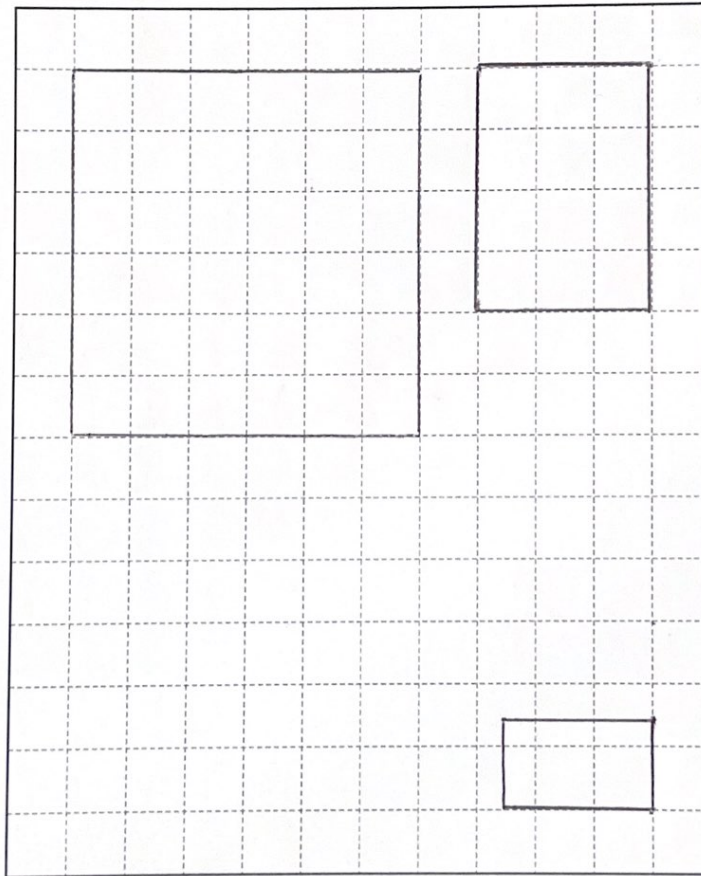
- one photo of width 60 cm and height 60 cm
- two photos each of width 30 cm and height 40 cm
- three photos each of width 25 cm and height 15 cm

There must be a space of at least 10 cm between photos.  
The grid is a scale drawing of the display board.

Use the grid to show how Liam could arrange the photos.

[5 marks]

Scale:  represents a 10 cm by 10 cm square



12



**11 Patchwork**

Daisy is making a cushion.

The front of the cushion has a patchwork design made up of 16 square patches.

The back of the cushion is a single piece of fabric.

**11 (a)** Daisy starts to make a sketch of her design.

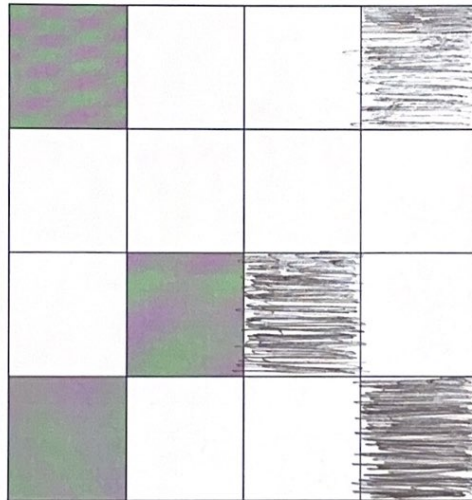
6 of the squares will be grey.

The rest of the squares will be white.

She has shaded 3 of the 6 grey squares.

Shade **3 more** squares so that the design has **at least** one line of symmetry.

**[2 marks]**

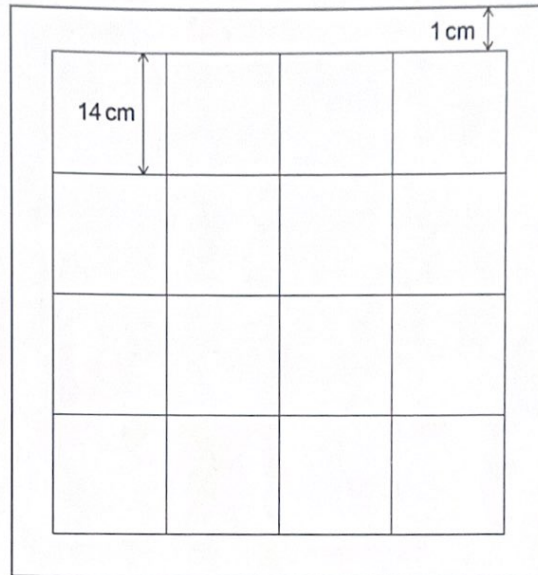


Question 11 continues on the next page

Turn over ►



- 11 (b) Each of Daisy's square patches measures 14 cm by 14 cm  
There is a 1 cm border around the patchwork.  
The diagram shows the front of Daisy's cushion.



Not drawn  
accurately

The front and back of the cushion are the same size.

Daisy has a **square** piece of fabric with an area of  $3600 \text{ cm}^2$

She wants to cut the back for her cushion from this piece of fabric.

Is this piece of fabric big enough?

You **must** show your working.

[4 marks]

$$1 \text{ side} = 14 + 14 + 14 + 14 + 1 + 1 = 58 \text{ cm}$$

$$\text{Area} = 58^2 = 58 \times 58 = 3364 \text{ cm}^2$$

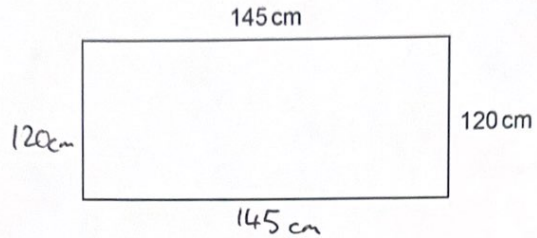
$$3364 < 3600$$

This fabric is big enough.





- 11 (c) Daisy also sews a patchwork quilt.  
The quilt is a rectangle.



Not drawn  
accurately

Daisy wants to put cord around the outside edges of the quilt.  
She has 3.6 metres of cord.

How much **more** cord does Daisy need?  
State the units of your answer.

[4 marks]

$$145 + 120 + 145 + 120 = 530 \text{ cm}$$

$$3.6 \times 100 = 360 \text{ cm}$$

$$530 - 360 = 170 \text{ cm}$$

Answer 170 cm

10

END OF QUESTIONS



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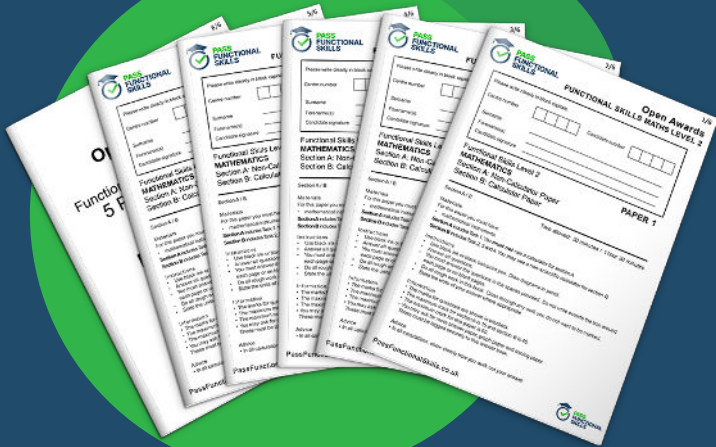
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ANSWER IN THE SPACES PROVIDED

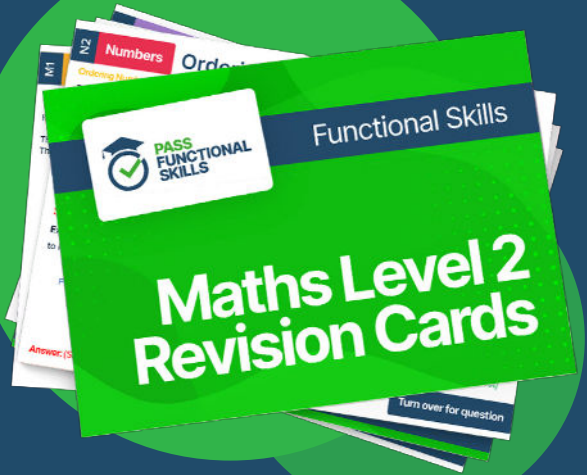




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