![AQA logo]

Please write clearly in block capitals.

Centre number ☐☐☐☐☐   Candidate number ☐☐☐☐

Surname _____

Forename(s) _____

Candidate signature _____

Functional Skills Certificate
FUNCTIONAL MATHEMATICS

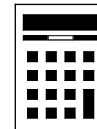## Level 1

Thursday 8 November 2018   **Morning**   **Time allowed: 1 hour 30 minutes**

Materials
For this paper you must have:
* a calculator
* mathematical instruments
* a copy of the Data Book (Examination) (enclosed).

For Examiner's Use	
Question	Mark
1	
2	
3	
4	
TOTAL	

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.
* Evidence of checking is specifically assessed in Questions 2(d) and 4(c). These questions are indicated with a **†**.

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

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

1   **Angling**

There is a **data sheet** for Angling.

1 (a)   In an angling competition there are

   7 semi-finals with 12 anglers

   5 semi-finals with 16 anglers

   3 semi-finals with 24 anglers.

In total, how many anglers qualify for the final?

[3 marks]

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1 (b)   Each semi-final lasts for 36 hours.

One semi-final starts at 09 00 on March 12th.

When does this semi-final finish?

Circle your answer.

[1 mark]

   09 00 on March 13th   21 00 on March 12th

   09 00 on March 14th   21 00 on March 13th

Do not write outside the box

1 (c) In one semi-final, the winner catches 10 fish.

The total weight of the 10 fish is 148 pounds.

In the same semi-final, Laura catches 6 fish.

The total weight of the 6 fish is 90 pounds.

Laura says,

"The mean weight of my fish is **more than** the mean weight of the winner's fish."

Is she correct?

You **must** show your working.

[3 marks]

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1 (d) The weight of the heaviest fish Laura catches in the competition is 17 pounds.

Last year, in Australia, she caught a fish weighing 8.2 kilograms.

Which fish was heavier?

Use the steps on the data sheet to help you.

[4 marks]

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Question 1 continues on the next page

Turn over ▶

1 (e) The table shows information about the 12 anglers in the final of a different competition.

Angler	Total weight of fish	Number of fish	Heaviest fish
Todd	117 lb 3 oz	6	25 lb 2 oz
Kevin	88 lb 12 oz	3	34 lb 5 oz
Rose	99 lb 5 oz	4	30 lb 0 oz
Lata	123 lb 0 oz	6	27 lb 3 oz
Ben	136 lb 7 oz	7	28 lb 7 oz
Amy	131 lb 15 oz	10	19 lb 12 oz
Cath	103 lb 8 oz	4	29 lb 4 oz
Harry	70 lb 1 oz	3	31 lb 8 oz
Steve	136 lb 7 oz	8	24 lb 13 oz
Ju	129 lb 4 oz	9	32 lb 1 oz
Divit	86 lb 6 oz	4	27 lb 10 oz
Fred	130 lb 14 oz	11	18 lb 11 oz

List the anglers who came first, second and third in this final.

[3 marks]

First _____

Second _____

Third _____

14

Do not write outside the box

2   **Council Tax**

There is a **data sheet** for Council Tax.

2 (a)   Matt, Sam and Tom are all 20 years old.
They share a home in Mossett.
The Council Tax band is **E**.
They are deciding how to pay the Council Tax.

We will pay 10 monthly payments.

Matt

We will all pay the same amount.

Sam

£60 each per monthly payment is enough.

Tom

Is Tom correct?
You **must** show your working.

[4 marks]

2 **(b)** Emmie is 23 years old.

She lives on her own in Kribly.

The Council Tax band for her home is **B**.

She says,

"With 25% discount my Council Tax will still be **more than** £1000 per year."

Is she correct?
You **must** show your working.

[5 marks]

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2 **(c)** Emmie's parents live in Kribly.

They pay £2580 Council Tax.

How much of the £2580 does the council use for buses?

[2 marks]

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Do not write outside the box

†2 (d) Dan and Mary are both disabled adults.

They live together in Heath.

The usual Council Tax band for their home is **D**.

Their home is adapted for their needs, so is re-banded.

By how much is their Council Tax reduced?

[2 marks]

Check your answer.
Show how you have done your check.

[1 mark]

14

Turn over for the next question

Turn over ▶

3 **Winter Wonderland**

Winter Wonderland

Lots of activities

❅ **Fun for all ages** ❅ **Overnight stays available**

This is Jane and her two children.

Meg, aged 4   **Jane**   **Jack, aged 8**

Jane is planning a visit to Winter Wonderland.

3 (a) Here are the ticket prices.

Ticket Prices

£38 per adult or child aged 5 and over

£25 per child aged under 5

How much will Jane pay for tickets for herself and her two children?

[2 marks]

3 (b) Winter Wonderland opens at 10 am

Jane and her children want to arrive 30 minutes before it opens.

They live 80 miles away.

Jane will drive 40 miles each hour.

What is the **latest** time they should set off?

[4 marks]

Turn over ▶

3 **(c)** Jane and her children can choose what activities to do after lunch.

She has already booked these activities.

13 00	Mrs Christmas	20 minutes
15 30	Elves	30 minutes

> We must choose what activities to do between the Mrs Christmas activity and the Elves activity.

> We want to do as many different activities as possible.

Jane

The other activities available are

- Reindeer   30 minutes

- Ice skating   50 minutes

- Sleigh ride   20 minutes

- Winter crafts   30 minutes

- Treasure hunt   40 minutes

Complete the plan for their activities on the page opposite.

You do **not** need to allow time between activities.

[5 marks]

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Practise on this plan.

Activity	Start time	Length of activity	End time
Lunch	12 00	1 hour	13 00
Mrs Christmas	13 00	20 mins	13 20
Elves	15 30	30 mins	16 00

Use this plan for your answer.

Activity	Start time	Length of activity	End time
Lunch	12 00	1 hour	13 00
Mrs Christmas	13 00	20 mins	13 20
Elves	15 30	30 mins	16 00

Turn over ►

3 **(d)** Myra and some friends are going to Winter Wonderland.

They will stay for 3 nights.

Myra looks at the prices of different-sized lodges.

Arrival date	Size of lodge		
	Sleeps 4	Sleeps 5	Sleeps 6
Friday 23rd Nov (3 nights)	£320	£385	£455
Friday 30th Nov (3 nights)	£378	£439	£495
Friday 7th Dec (3 nights)	£410	£450	£545

Myra is booking lodges for 15 people.

They will arrive on Friday 7th December.

She can book three lodges that sleep 5 **or** one lodge of each size.

She says,

"Booking three lodges that sleep 5 is cheaper by **more than** £50"

Is she correct?
You **must** show your working.

[5 marks]

16

4   **Christmas Cards**
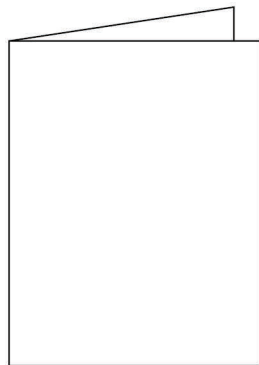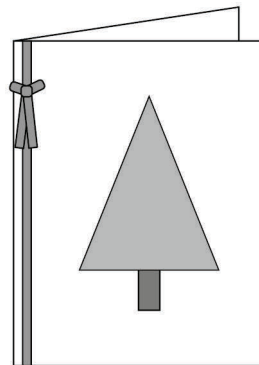

I make and sell Christmas cards.
I put designs onto card blanks.

Leah

Card blank

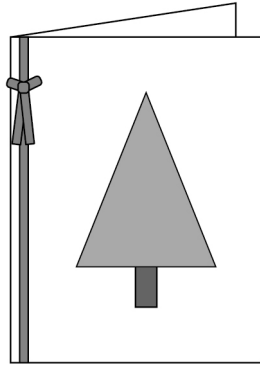**Card blank with design**

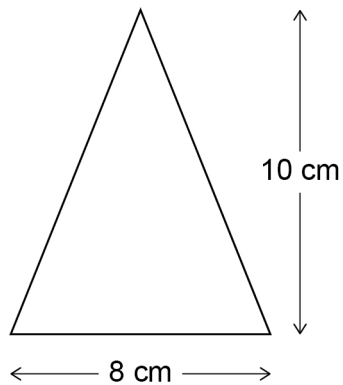**Question 4 continues on the next page**

Leah is designing a card with a Christmas tree picture.

4 (a) Leah buys pieces of green felt.

Each piece is a 30 cm by 24 cm rectangle.

For the Christmas tree she cuts isosceles triangles from the felt.

Here is a sketch of one of the triangles.
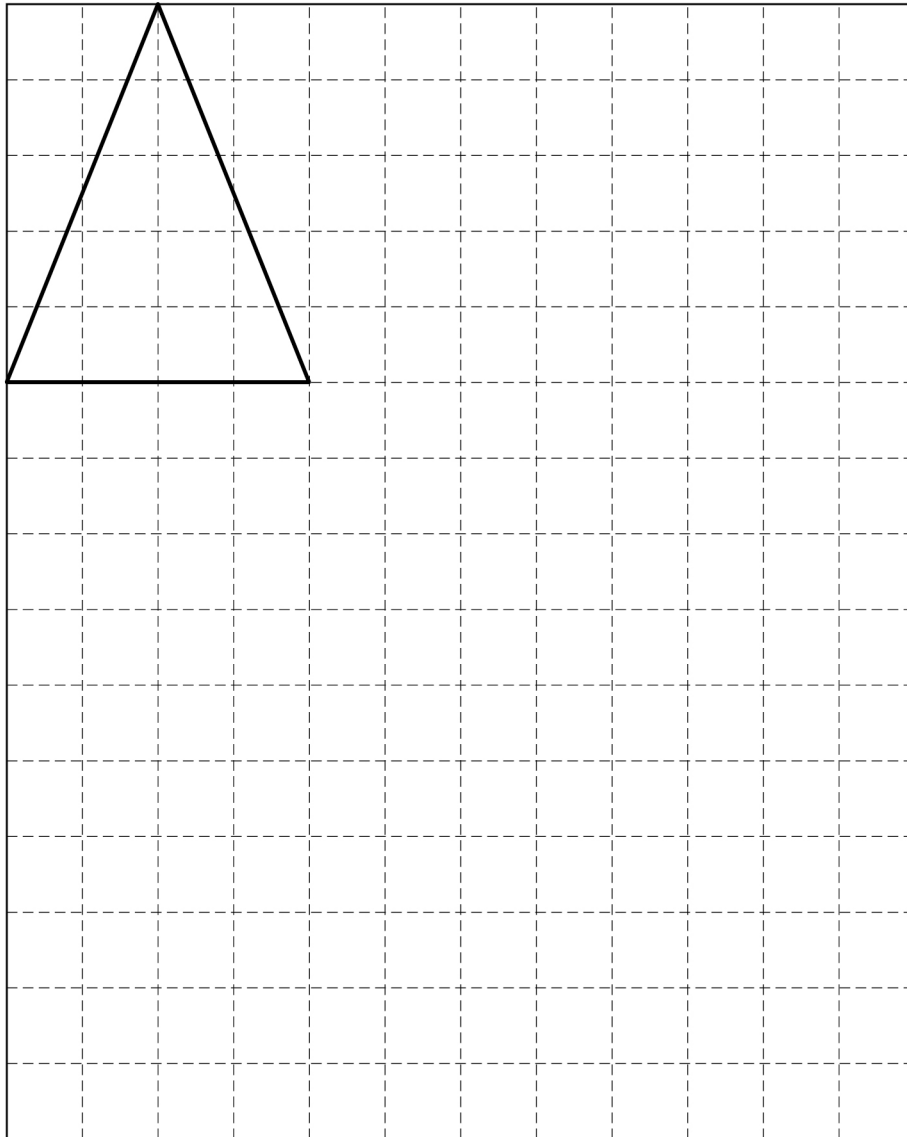

Not drawn accurately

Show that she can cut 15 of these triangles from one piece of felt.

Use the scale drawing opposite.

One triangle is already drawn for you.

[3 marks]

Scale: 1 cm represents 2 cm

Do not write outside the box

Leah wants to make 60 cards with the Christmas tree design.

4 (b) Leah wants to add a bow made of ribbon to each card.

Each bow uses 40 cm of ribbon.

The ribbon costs £1.50 per 2-metre roll.

Leah says,

"It will cost £18 to buy the rolls of ribbon I need for 60 cards."

Show that she is correct.

[4 marks]

Leah buys card blanks in packs of 10

†4 (c) Work out how many packs she needs for 60 cards.

[2 marks]

Check your answer.
Show how you have done your check.

[1 mark]

Do not write outside the box

4 (d) Card blanks cost £7.50 **per pack**.

The table shows the costs of the items she needs to decorate the card blanks.

	Total cost
Felt	£4
Ribbon	£18
Other costs	£5.60

Leah sells all 60 cards for £2.75 each.

She says,

"I have made **more than** £90 profit on the cost of making the cards."

Is she correct?
You **must** show your working.

[6 marks]

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16

END OF QUESTIONS

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ANSWER IN THE SPACES PROVIDED

Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

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