AQA

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

Functional Skills Certificate
FUNCTIONAL MATHEMATICS

Level 1

Monday 15 January 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.
- 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

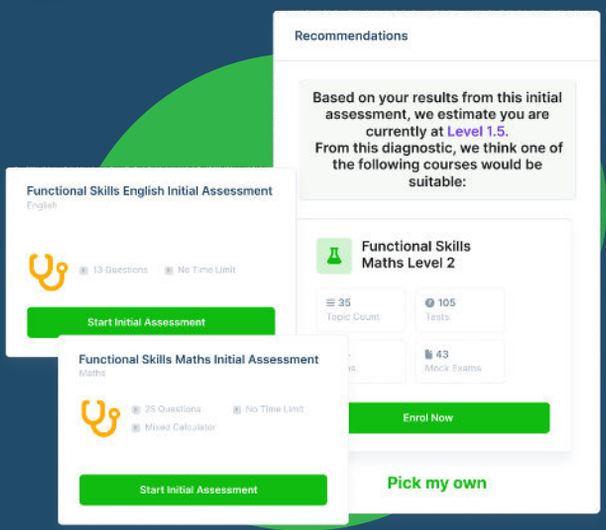
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 60.
- You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.
- Evidence of checking is specifically assessed in Questions 1(a) and 2(b). These questions are indicated with a †.

Advice

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

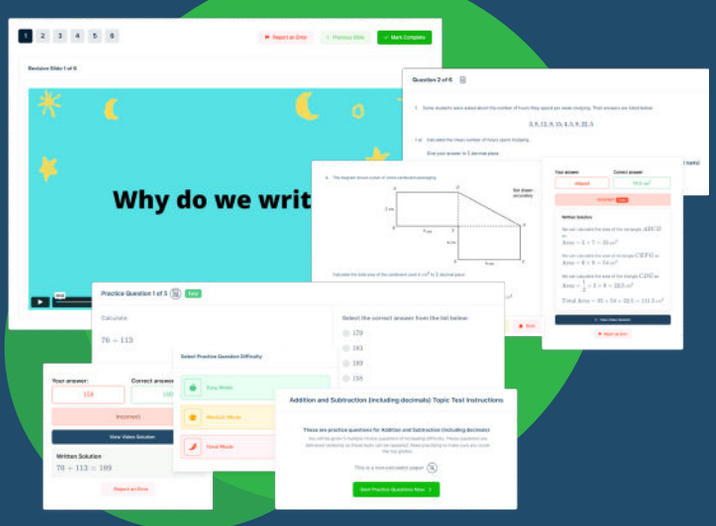
PASS FUNCTIONAL SKILLS

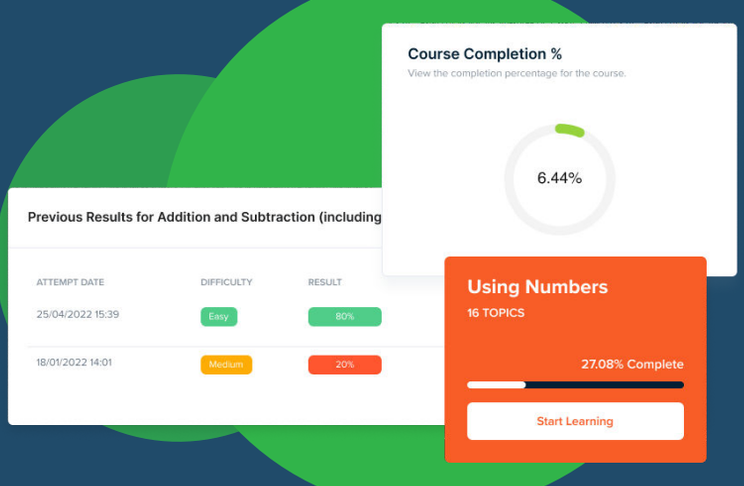
FUNCTIONAL SKILLS ONLINE COURSES



- 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

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





- 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

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

1 **Minibus**

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

Samir wants to hire some minibuses to go to a hockey match.

He needs enough minibuses to carry 90 people.

†1 (a) Each minibus can carry 15 people.

How many minibuses does Samir need to hire?

[2 marks]

90 ÷ 15 = 6

Check your answer.

Show how you have done your check.

[1 mark]

6 × 15 = 90

1 (b) Each minibus can travel 24 miles for one gallon of petrol.

Each minibus travels 60 miles.

How many gallons of petrol will **each** minibus use?

[2 marks]

60 ÷ 24 = 2.5

10 friends live in Bristol.

They are going to Truro for a weekend.

They want to hire a minibus to get from Bristol to Truro and back.

1 (c) How many miles in total is it from Bristol to Truro and back?

[2 marks]

168 × 2 = 336

1 (d) The 10 friends look at this advert.

Minibus hire

£21 per day

plus

70p per mile

They hire the minibus for 3 days.

They travel from Bristol to Truro and back.

The friends share the cost equally between them.

How much will each friend pay?

[5 marks]

70p = £0.70

Mile cost: 168 × 2 × £0.70 = £235.20

Day cost: £21 × 3 = £63.00

£235.20 + £63.00 = £298.20

£298.20 ÷ 10 = £29.82 each.

1 (e) On the journey they come to a low bridge.

The height of the minibus with a loaded roof rack is 3.2 metres.

Show that the minibus can pass under the bridge.

[2 marks]

11 × 300 = 3300

3300 ÷ 1000 = 3.3 > 3.2

The minibus can pass under the bridge

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2 **Guide Dogs in training**

Guide Dogs train at a centre each day from Monday to Friday.
In the evenings and at weekends, people look after them at home.

Sarah looks after Buddy.

2 (a) Sarah takes Buddy from her home to the centre.
She then travels to work.
Sarah makes these notes.

Home to centre	quarter of an hour
At centre	5 minutes
Centre to work	35 minutes

Sarah needs to arrive at work by 8.45 am

Work out the **latest** time that she can leave home.

[4 marks]

quarter of an hour = 15 minutes
8.45am − 35 mins = 8.10 am
8.10am − 5 mins = 8.05am
8.05am − 15 mins = 7.50am

7.50am.

The daily amount of food for a dog depends on the weight of the dog.

Weight of dog	Daily amount of food
26 kg	362 g
27 kg	372 g
28 kg	382 g
29 kg	392 g
30 kg	402 g
31 kg	412 g
32 kg	422 g
33 kg	432 g

Dogs get two feeds each day.

Morning feed Half the daily amount

Evening feed Half the daily amount

†2 (b) Buddy weighs 28 kg

How much food does Buddy get in his morning feed?

[2 marks]

382 ÷ 2 = 191

Check your answer.

Show how you have done your check.

[1 mark]

191 × 2 = 382

2 (c)

Tim looks after Ella.

Ella gets 216 grams in her morning feed.

Tim uses a cup to measure out the feed.

1 cup holds 96 grams.

Tim says,

"I need to measure out between 2 and $2\frac{1}{2}$ cups."

Is he correct?

You **must** show your working.

[3 marks]

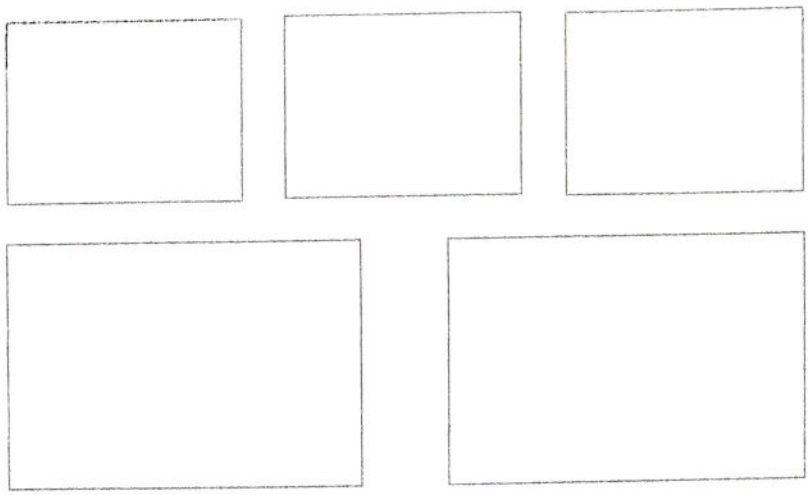
$96 \times 2 = 192 < 216$

$96 \times 2\frac{1}{2} = 240 > 216$

Tim is correct.

Question 2 continues on the next page

2 (d) At the centre the dogs are put into one of five cages.
There are three small cages and two large cages.



Up to 2 dogs can be put in each small cage.

Up to 3 dogs can be put in each large cage.

These dogs need to be put in the cages.

Dog	Information
Axel	With Gina
Buddy	With Ella
Cora	Not on her own
Dax	With only one other dog
Ella	With Hugo

Dog	Information
Frank	With only one other dog
Gina	Not with Cora or Iggy
Hugo	Not on his own
Iggy	Not on his own
Jake	On his own

On the next page show **one** possible way the dogs can be put in the cages.

[5 marks]

Practise on this diagram.

Put your answer on this diagram.

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3 **Dance Show**

Susan runs a dance school.

Susan

The students at my dance school are in a show.

Each dancer in the show wears a costume with a sash.

Susan is making the sashes.

Each sash is a rectangle 140 cm long and 20 cm wide.

Here is a scale drawing of a sash.

Scale 1 cm represents 20 cm

3 (a) Susan has a piece of material 200 cm long and 160 cm wide.

She says,

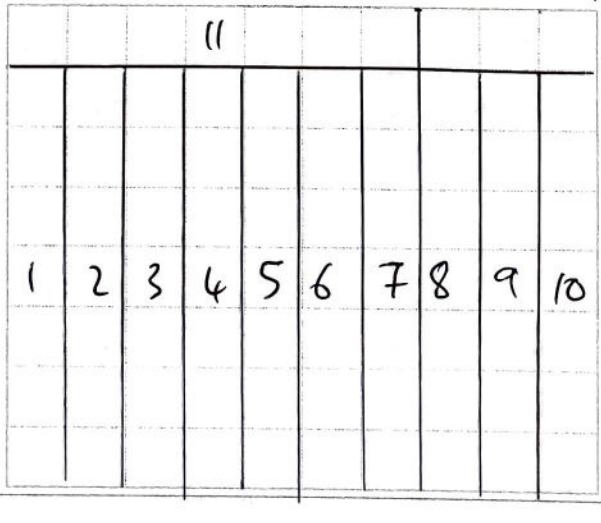
"I can make 11 sashes from this piece of material."

Use the scale drawings below to show how she can do this.

[3 marks]

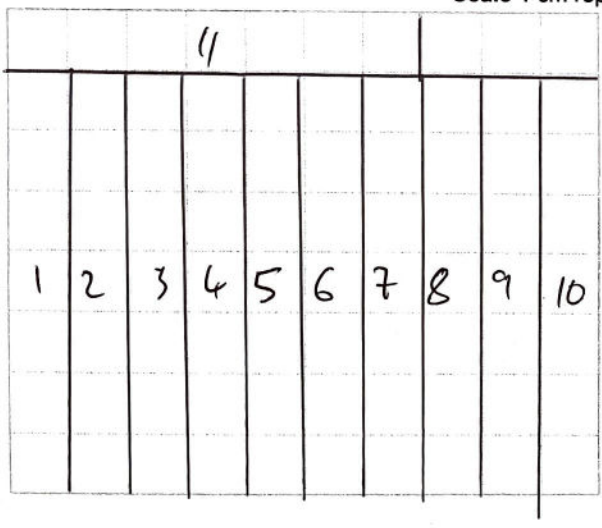
Practise on this scale drawing.

Scale 1 cm represents 20 cm



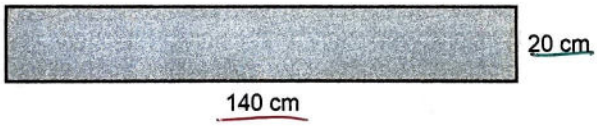
Put your answer on this scale drawing.

Scale 1 cm represents 20 cm



3 (b) Susan sews tape along the edge of each sash.

Not drawn accurately



How many centimetres of tape does she need for 25 sashes?

[3 marks]

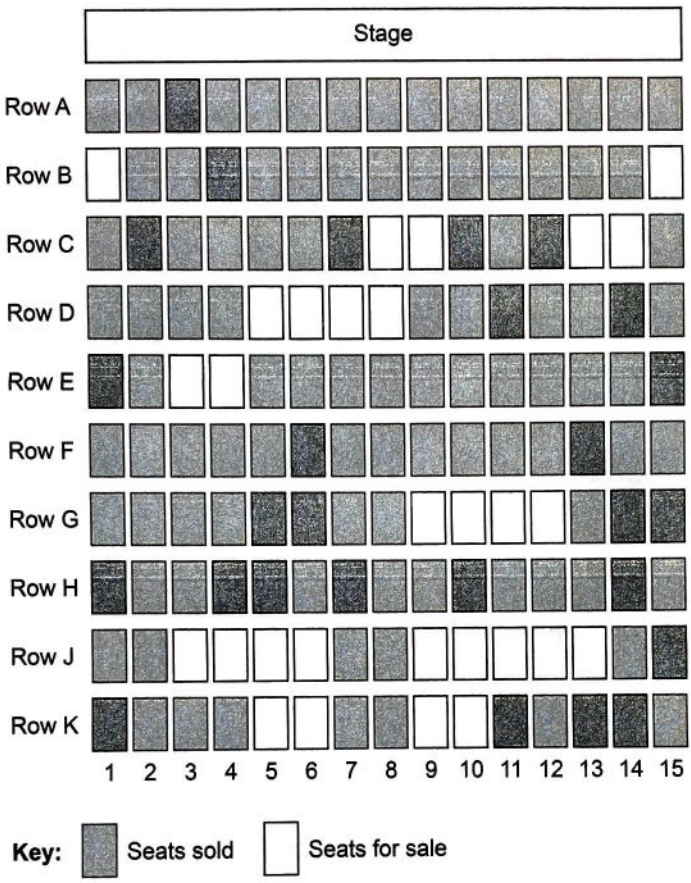
140 + 20 + 140 + 20 = 320

320 × 25 = 8000 cm.

Susan has booked a hall for the show.

Here is a seating plan for the hall.

The seats already sold for Friday are shaded.



3 (c) Chris and Mary want 2 seats for Friday.

They want the seats to be

- together in the same row
- as near to the stage as possible
- as near to the end of a row as possible.

Which seats should they choose?

Circle your answer below.

[1 mark]

A1 and A2 C8 and C9 C13 and C14 K5 and K6

3 (d) The show is on for **two** nights.

Tickets are £8.50 each.

The **total** cost of putting on the show for two nights is £960

Susan says,

"If we sell **all** the tickets for both nights we will make **more than** £1500 profit."

Is she correct?

You **must** show your working.

[6 marks]

150 seats.

150 × £8.50 × 2 = £2550

£2550 − £960 = £1590.

£1590 > £1500

Susan is correct.

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Turn over for the next question

4 **Wages**

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

My company makes and sells clothing.

Bob

10 piece workers make T-shirts.

This list shows the number of T-shirts each worker made in one hour.

10 7 9 8 6 7 7 10 9 7

4 (a) Show that the mean number of T-shirts made per worker is 8

[2 marks]

$\frac{10+7+9+8+6+7+7+10+9+7}{10} = 8$

4 (b) The workers are all 18 to 20 years old.

Bob says,

"The fair rate is 75p per T-shirt."

Is he correct?

You **must** show your working.

[6 marks]

18-20 so NMW is £5.60.

£5.60 ÷ 8 = 70p.

70p × 6 = £4.20.

£4.20 ÷ 5 = 84p > 75p

Bob is not correct.

4 (c) All 10 piece workers make T-shirts for 2 days.

They work 6 hours each day.

The mean number of T-shirts they each make per hour is 8

Bob says,

"Altogether, they will make more than 1000 T-shirts."

Is he correct?

You **must** show your working.

[4 marks]

10 × 2 × 6 × 8 = 960 < 1000

Bob is not correct.

4 (d) Bob sells 2000 skirts for £4.99 each.

Here are his costs.

Payments to piece workers	£1.64 per skirt
Materials	£1900
Postage and packaging	£705
Other costs	£1080

Bob says,

"My profit is **more than** £3000"

Is he correct?

You **must** show your working.

[6 marks]

£1.64 × 2000 = £3280

£3280 + £1900 + £705 + £1080 =

£6965

2000 × £4.99 = £9980

£9980 - £6965 = £3015 > £3000

Bob is correct.

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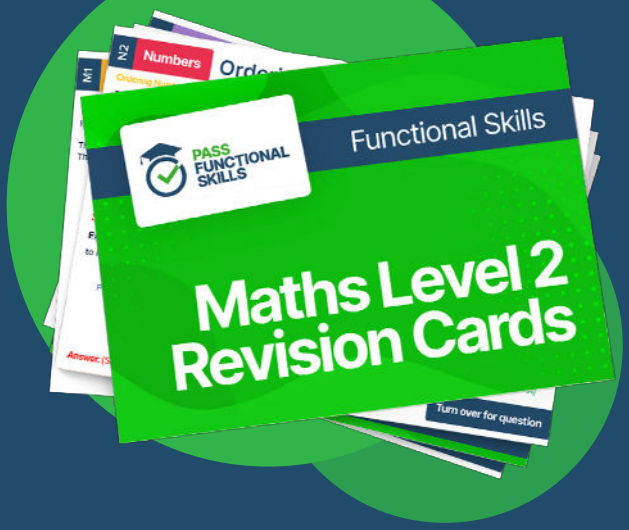
END OF QUESTIONS

PASS FUNCTIONAL SKILLS

Functional Skills Maths
Level 2 Practice Papers



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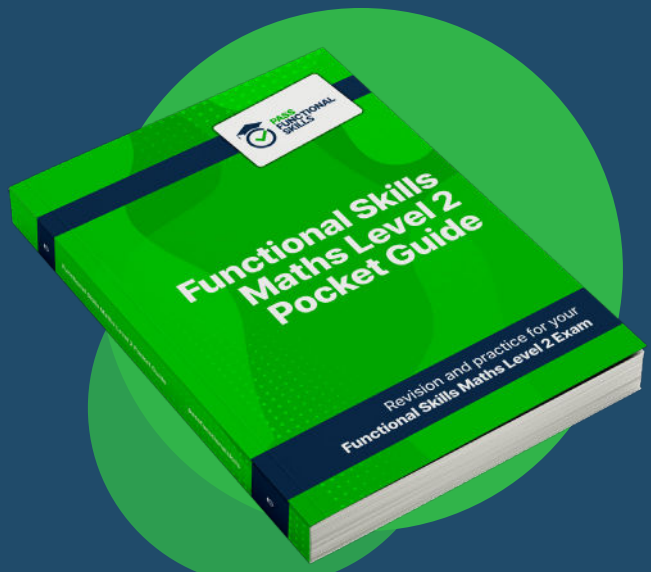

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