NCFE

NCFE Level 1 Functional Skills Qualification in Mathematics (603/5055/6)

Paper number:	P001371
Section B:	Calculator Test

Assessment window: Monday 7 September 2020 – Friday 11 September 2020
Time allowed: 1 hour 30 minutes

Learner instructions

- Answer **all** questions.
- Read each question carefully.
- Write your answers in the spaces provided.
- Show your working, as marks may be awarded for working.
- State units in your answers, where appropriate.
- Check your work.

Learner information

- Section B contains **Activities 2, 3** and **4**.
- The maximum mark for this section is **45**.
- The marks available for **each** question are shown in brackets.

Resources

You will need a:

- pen, with black or blue ink
- pencil and eraser
- 30 cm ruler
- protractor
- calculator.

If extra pages are used, please make sure your name and centre name
are on them and they are securely fastened to this booklet.

Please complete the details below clearly and in BLOCK CAPITALS.

Learner name

Centre name

Learner number   Centre number

Do not turn over until the invigilator tells you to do so.

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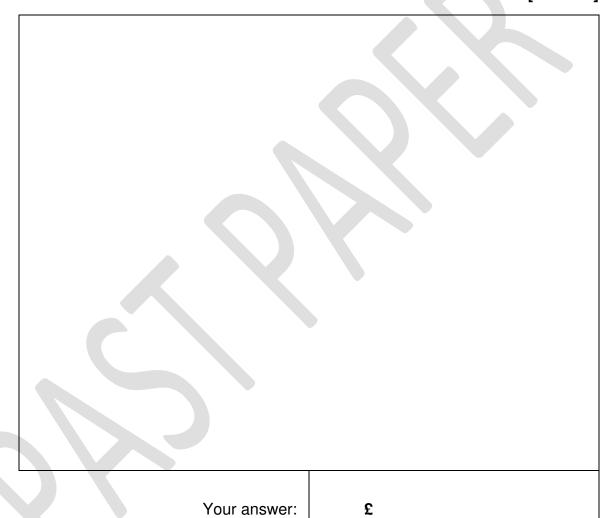## Activity 2:   Renovation

2 (a)   Andy is renovating his kitchen.

He uses this calculation to work out the estimated cost in pounds:

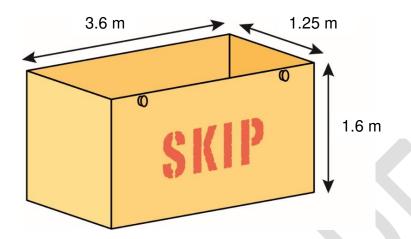$$\frac{2160 \times 5^2}{2 \times 3}$$

What is the estimated cost?

[3 marks]

Your answer: **£**

2 (b)   Andy hires a skip.

The skip is cuboid.

It is 1.25 m wide, 3.6 m long and 1.6 m deep.

3.6 m   1.25 m

1.6 m

**Not drawn
accurately**

What is the volume of the skip in m^3?

[2 marks]

Your answer: | m^3
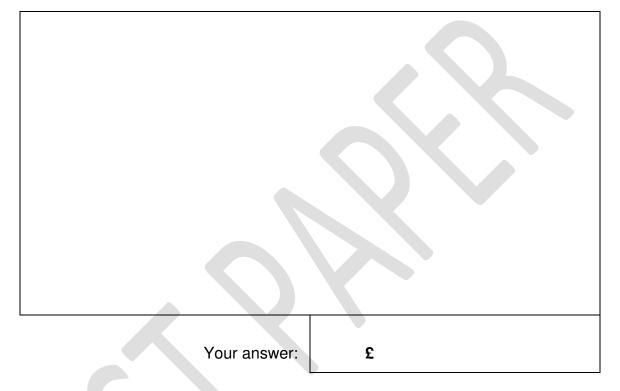
4

2 (c)   Andy buys a new kitchen.

The kitchen costs £5000

Andy gets a 2-year loan to pay for the kitchen.
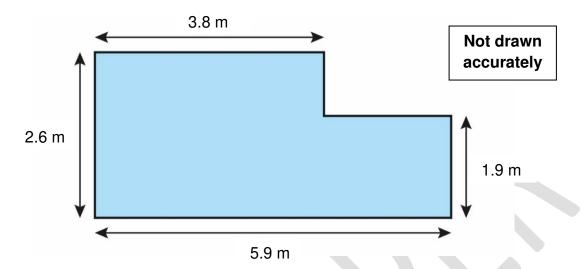
He pays simple interest on the loan at 5% per year.

How much will he have paid back **in total** after 2 years?

[2 marks]

Your answer: **£**

Please turn over

2 (d)   Andy paints a wall in his kitchen.

He rounds all wall dimensions to the nearest whole number then uses the rounded numbers to estimate the area of the wall.

3.8 m

Not drawn accurately

2.6 m

1.9 m

5.9 m

What value should Andy get for the total area of the wall using this method?
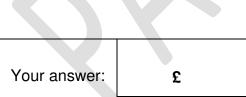
[4 marks]

Your answer: _____ **m²**

2 (e) Andy shops for all of the materials he needs.

The materials cost £85

This is $\frac{1}{5}$ of Andy's budget.

How much is his total budget?

[2 marks]

Your answer: **£**

2 (f)   Andy is making a timetable for work to be done on Monday.

> *Cleaning the walls:*   *40 minutes*
> *Painting the base coat:*   *70 minutes*
> *Letting the base coat dry:*   *120 minutes*
> *Painting the topcoat:*   *95 minutes*

Andy will start work at 1 pm

He thinks he will finish by 6.30 pm

Is Andy correct?

Show how you decide.

[2 marks]

Your answer:

[Total marks: 15]
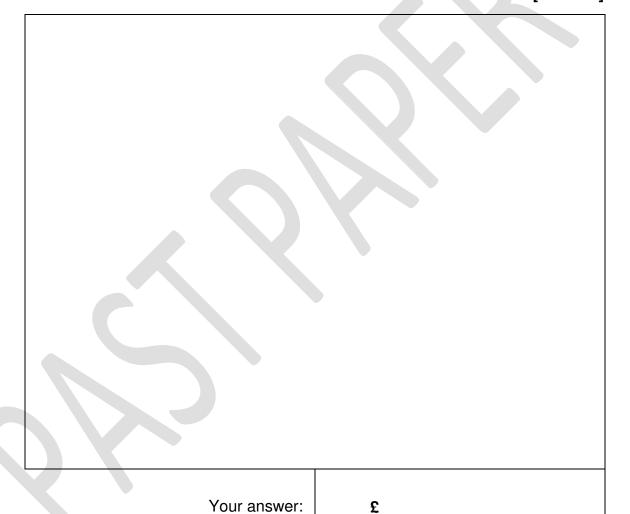
Activity 3: Going abroad

3 (a) Simon is going to France for 7 days.

He has £700 saved for this trip.

He plans to spend $\frac{2}{5}$ of it on accommodation, 25% on flights and the rest as spending money.

How much spending money will he have?

[3 marks]

Your answer: £

Please turn over

3 (b)   Simon looks at the weather forecast in Paris.

The table shows a 7-day forecast:

Day	Forecast temperatures in °C for Paris
Mon	15
Tue	17
Wed	17
Thu	16
Fri	16
Sat	22
Sun	23

Draw a line graph to represent this data.

[4 marks]

Forecast temperatures in °C for Paris

Days of the week

3 (c)   The table shows a 7-day forecast:

Day	Forecast temperatures in °C for Paris
Mon	15
Tue	17
Wed	17
Thu	16
Fri	16
Sat	22
Sun	23

Calculate the mean temperature.

[2 marks]

Your answer: °C

Please turn over

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3 (d)   Simon has a luggage allowance of 23 kg

He has already packed 18 400 g

How many more **kg** can he pack?

Your answer: **kg**

3 (e)   Simon goes to the airport shop.

He sees these two offers for sunglasses:

Offer 1   Was £40
Now 15% off

Offer 2   Was £25
Now 25% off

Which offer saves him the most money?

Show how you decide.

[2 marks]

Your answer:

Please turn over

3 (f)   Simon waits to get on the plane.

He watches another plane taking off.

What type of angle does the plane take off at?

[1 mark]

Tick to show your answer.

☐ Obtuse angle

☐ Reflex angle

☐ Acute angle

☐ Right angle

3 (g)   On arrival, Simon gets a taxi to his hotel.

The taxi costs €21

He converts this to £ and gets the answer 18.168

What is 18.168 to 2 decimal places?

[1 mark]

Your answer:

[Total marks: 15]

Activity 4: Climate change

4 (a) Amena is studying Geography at a college.

She is interested in the effects of climate change.

She reads that the average rainfall in Britain is 1154 mm per year.

What is 1154 in words?

[1 mark]

Your answer:

4 (b) The ice sheet in Greenland is 657 000 square miles.

Texas is one third of this size.

Calculate one third of 657 000

[1 mark]

Your answer: **square miles**

4 (c)   In 2018, the average winter temperature in Svalbard was –4°F

In 2019, this increased by 9°F

Amena wants to work out the average winter temperature in 2019 in °C

She uses this rule:

| Temperature in °F | ➡ | Subtract 32 | ➡ | Multiply by 0.6 | ➡ | Temperature in °C |

What was the 2019 average winter temperature in °C?

[3 marks]

Your answer: **°C**

4 (d)   Melting ice can cause sea levels to rise.

This table shows the rise in sea levels year by year over 10 years:

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Rise (in cm)	0.92	0.82	0.49	0.911	0.56	0.97	0.88	0.9	0.802	0.8

In which year was the rise in sea level the greatest?

[1 mark]

Your answer:

4 (e) Some scientists think that climate change might increase the number of earthquakes.

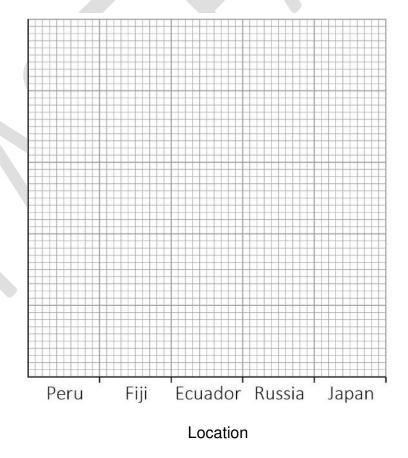Amena finds this information about the magnitude of some earthquakes.

Magnitude of earthquakes	Location
8.0	Peru
8.2	Fiji
7.8	Ecuador
8.3	Russia
9.1	Japan

She needs to draw a bar chart.

Draw a bar chart for Amena.

[4 marks]

Magnitude of earthquakes

Peru   Fiji   Ecuador Russia   Japan

Location

4 (f) Calculate the range of the magnitudes.

[1 mark]

Your answer:

Please turn over

4 (g) Climate change increases the probability of flooding in some areas.

The probability of Town A being flooded in the next 50 years is $\frac{1}{10}$

The probability of Town B being flooded in the next 50 years is $\frac{1}{5}$

The probability of Town C being flooded in the next 50 years is $\frac{1}{3}$

Which town is the most likely to be flooded in the next 50 years?

[1 mark]

Your answer:

4 (h) Mark the probability of Town A being flooded in the next 50 years on the probability scale below.

[1 mark]

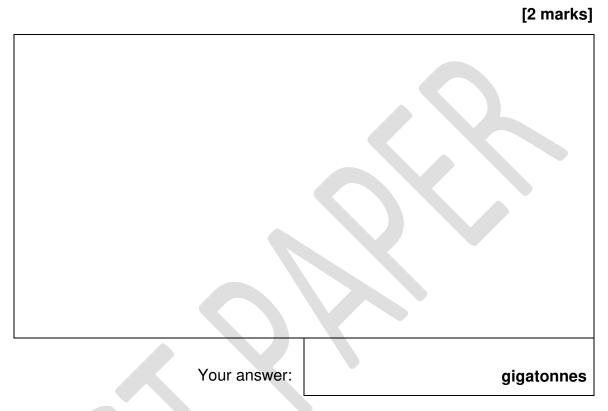**0**   **1**

4 (i) In 2010 scientists said that a 45% reduction of CO_2 emissions was needed by 2030 to avoid average temperatures rising by more than 1.5°C

Global CO_2 emissions were 10 gigatonnes in 2010

What must the CO_2 emissions be by 2030 to avoid the temperature rising by more than 1.5°C?

[2 marks]

Your answer: **gigatonnes**

[Total marks: 15]

This is the end of the external assessment.

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