



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.



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
 $76 + 113 = 189$

Question 2 of 5
Select the correct answer from the list below:
129
183
189
194

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

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

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]

$$5^2 = 25$$

$$2160 \times 25 = 54000$$

$$2 \times 3 = 6$$

$$54000 \div 6 = \pounds 9000$$

Your answer:

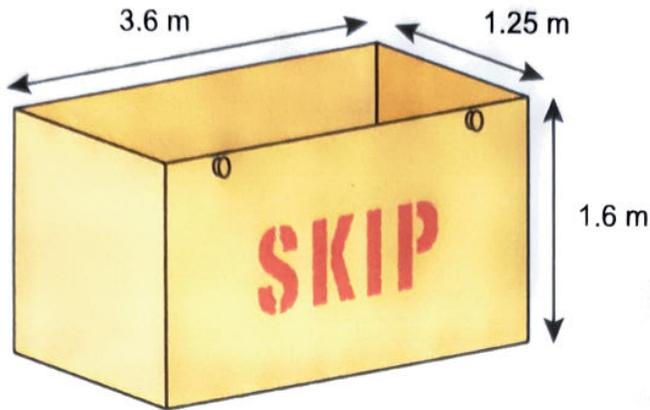
£ 9000

Please turn over

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.



Not drawn
accurately

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

[2 marks]

$$1.25 \times 3.6 \times 1.6 \\ = 7.2 \text{ m}^3$$

Your answer:

7.2

m^3

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]

$$\begin{aligned} \text{1st year} &= \text{£ } 5000 + (5000 \times 0.05) \\ &= 5250 \end{aligned}$$

$$\begin{aligned} \text{2nd year} &= \text{£ } 5250 + (5000 \times 0.05) \\ &= 5500 \end{aligned}$$

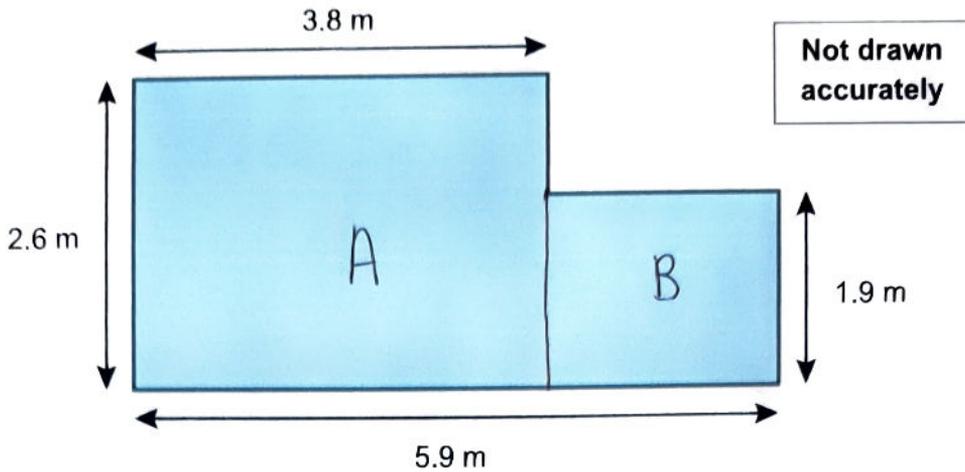
Your answer:

£ 5500

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.



What value should Andy get for the total area of the wall using this method?

[4 marks]

$$\text{Area} = A + B$$

$$A = \text{width} \times \text{height} = 3 \times 4 = 12 \text{ m}^2$$

$$B = 2 \times (6 - 4)$$

$$= 2 \times 2 = 4 \text{ m}^2$$

$$\text{Total} = 12 + 4 = 16 \text{ m}^2$$

Your answer:

16

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]

$$£85 \times 5 = £425$$

Your answer:

£ 425

Please turn over

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

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

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]

1 pm + 40 mins = 1:40 pm
1:40 pm + 70 mins = 2:50 pm
2:50 pm + 120 mins = 4:50 pm
4:50 pm + 95 mins = 6:25 pm

Your answer:

Yes

[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]

$$\text{accommodation: } £700 \div 5 = £140 \times 2 = \textcircled{£280}$$

$$\text{Flights: } £700 \div 4 = \textcircled{£175}$$

$$\text{leftover: } 700 - 280 - 175 = £245$$

Your answer:

£ 245

Please turn over

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

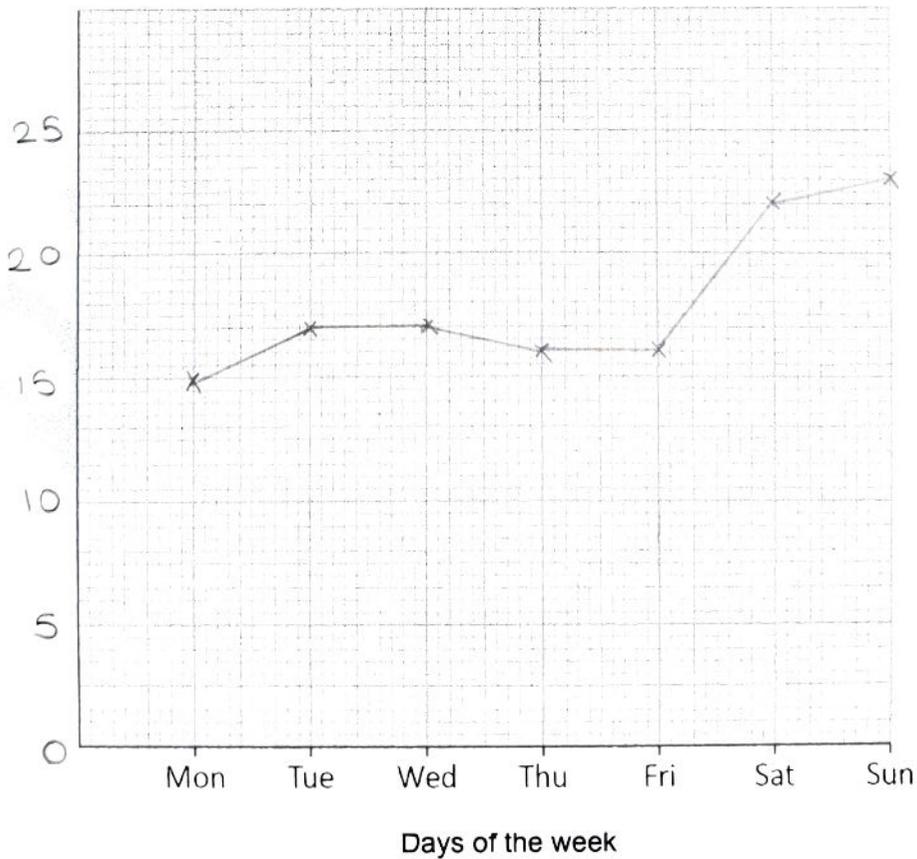
The table shows a 7-day forecast:

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



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]

$$15 + 17 + 17 + 16 + 16 + 22 + 23 = 126$$

$$126 \div 7 = 18$$

Your answer:

18

°C

Please turn over

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

He has already packed 18 400 g

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

[2 marks]

$$1000 \text{ g} = 1 \text{ kg}$$
$$18\,400 \text{ g} = 18.4 \text{ kg}$$
$$23 - 18.4 = 4.6 \text{ kg}$$

Your answer:

4.6

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]

offer 1 : £ 40 x 0.15 = (£6)
~~£40 x 0.15 = £6~~

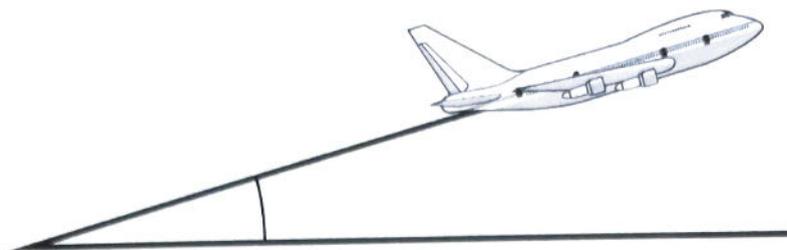
offer 2 : £ 25 x 0.25 = (£6.25)

Your answer:

offer 2

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:

18.17

[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:

one thousand one hundred and
fifty-four

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]

$$657000 \div 3 = 219000$$

Your answer:

219000 square miles

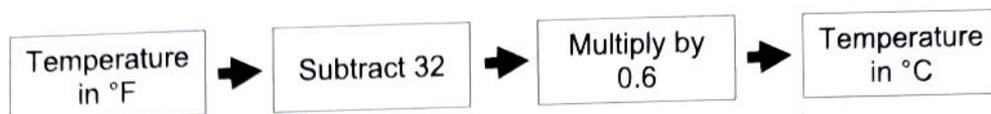
Please turn over

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 $^{\circ}\text{C}$

She uses this rule:



What was the 2019 average winter temperature in $^{\circ}\text{C}$?

[3 marks]

2018 -4°F
 2019 5°F

$5^{\circ}\text{F} \xrightarrow{-32} -27 \xrightarrow{\times 0.6} -16.2^{\circ}\text{C}$

Your answer:

16.2 $^{\circ}\text{C}$

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:

1995

Examiner use only

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

Amena finds this information about the magnitude of some earthquakes.

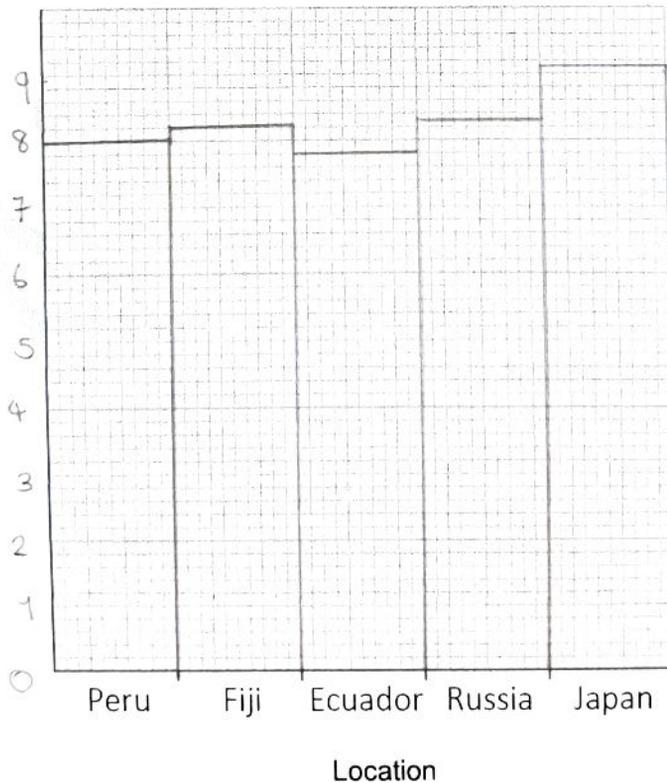
Magnitude of earthquakes	Location
8.0	Peru
8.2	Fiji
7.8	Ecuador
8.3	Russia
9.1	Japan

She needs to draw a bar chart.

Draw a bar chart for Amena.

[4 marks]

Magnitude of earthquakes



4 (f) Calculate the range of the magnitudes.

[1 mark]

$$9.1 - 7.8 \\ = 1.3$$

Your answer:

1.3

FAST PAPER

Please turn over

Examiner use only

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]

<p>Town A = 0.1 Town B = 0.2 Town C = 0.3333</p>
--

Your answer:

C

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

[1 mark]



- 4 (i) In 2010 scientists said that a 45% reduction of CO₂ emissions was needed by 2030 to avoid average temperatures rising by more than 1.5°C

Global CO₂ emissions were 10 gigatonnes in 2010

What must the CO₂ emissions be by 2030 to avoid the temperature rising by more than 1.5°C?

[2 marks]

$$10 \text{ gigatonnes} \times 0.55 = 5.5 \text{ gigatonnes}$$

Your answer:

5.5

gigatonnes

[Total marks: 15]

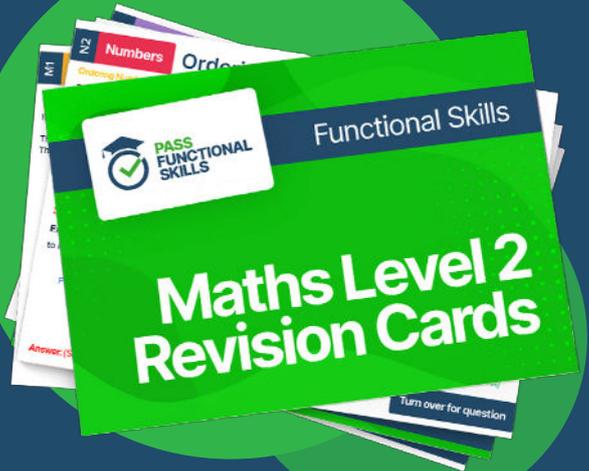
This is the end of the external assessment.



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