Sample Paper 2

ncfe.

Sample Paper: P000293

NCFE Functional Skills Qualification in Mathematics at Level 2 (501/2324/5)

Time Allowed 2 HOURS

You **need** the following to complete this assessment:

- ruler
- calculator

Read each document and activity carefully and attempt to answer **all** activities.

Write your answers in the spaces provided and ensure that your writing is legible.

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

At the end of the assessment hand all documents over to the invigilator as instructed.

DO NOT TURN OVER UNTIL YOU ARE INSTRUCTED TO DO SO BY THE INVIGILATOR.

For Examiner use only:

Activity number	1	2	3	Total
Total Marks awarded				
Total Marks available	**19**	**10**	**11**	**40**

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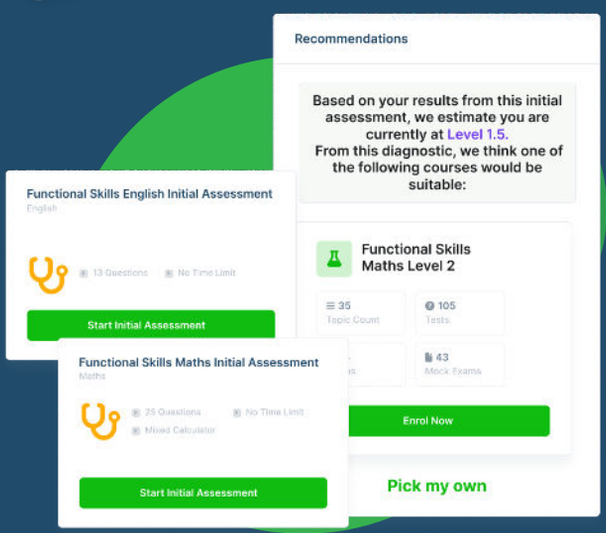
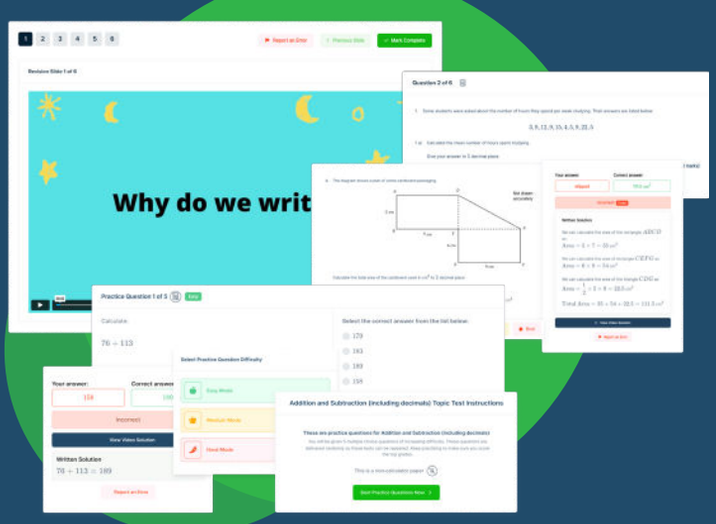
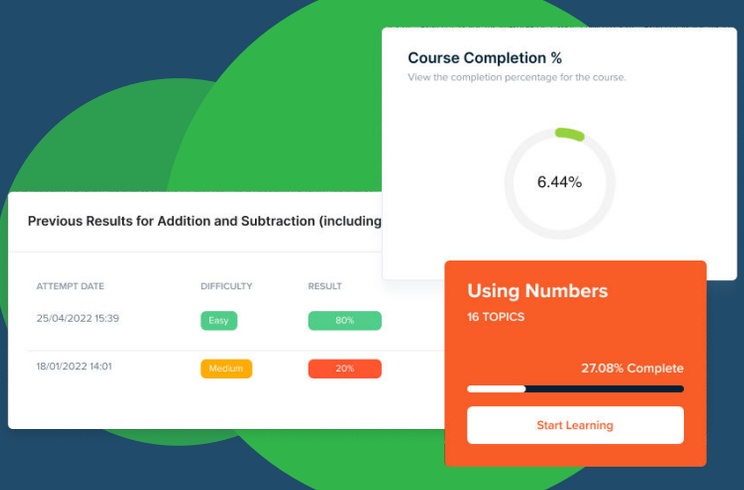
FUNCTIONAL SKILLS ONLINE COURSES



- 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

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Garden Centre

A garden centre is a place where plants and gardening equipment are sold.

This assessment is about:

- discounts
- sales
- caring for your garden.

Complete activities 1, 2 and 3 based on the documents provided for each activity.

Activity 1

Task A

Sanjit and Marta work at Grow It Garden Centre. They have organised a discount week.

Tools that are £20 or less have 15% off.

Tools that are more than £20 have 20% off.

Tool	Full Price
Fork	£25.00
Spade	£26.50
Edger	£19.00

1. What is the discounted price for the fork?

Marks available: 1

Space for your working:

25 × 0·8 = £20

Your answer:

£20

2. What is the discounted price for the edger?

Marks available: 1

Space for your working:

19 x 0·85 = £16·15

Your answer:

£16·15

3. Grow It Garden Centre also sell rakes. A rake has a price of £17 after a discount of 20%.

What was its original price?

Marks available: 2

You must show your working:

17 ÷ 0·8 = £21·25

Your answer:

£21·25

Task B

Grow It Garden Centre have had 8 previous discount weeks.

The numbers of packets of flower seeds sold are shown in the table below.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
172	190	216	168	267	151	189	223

1. What was the average (mean) number of packets of flower seeds sold?

Marks available: 3

You must show your working:

Mean = $\frac{172+190+216+168+267+151+189+223}{8}$

$= \frac{1576}{8} = 197$

Your answer:

197

Show how you can check your answer:

197 × 8 = 1576

2. The discounted price of a packet of flower seeds is always 95p.

What was the total income from packets of flower seeds in the previous 8 discount weeks? Give your answer in **pounds**.

Marks available: 2

You must show your working:

1576 x 0·95 = £1497·20

Your answer:

£1497·20

3. What was the range of the numbers of packets of flower seeds sold?

Marks available: 2

You must show your working:

Range = 267 - 151 = 116

Your answer:

116

Show how you can check your answer:

~~116~~ 116 + 151 = 267

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Please turn over for the next task.

Task C

Sanjit looked at all items sold last month. There were 720 items sold.
The total income from sales was £9720

He looked at the 4 categories: tools, plants, seeds and other.

He drew 2 pie charts.

Chart 1 shows the number of items sold. The angle for plants is 120° and the angle for other is 78°.

Chart 2 shows the total income for each category. The angle for plants is 54° and the angle for other is 206°.

In both charts the angle for tools is a right angle.

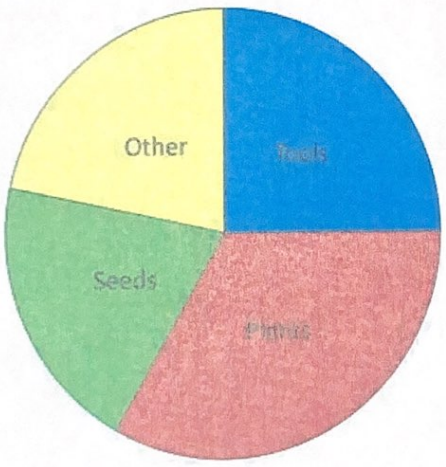

Chart 1: Number of items sold

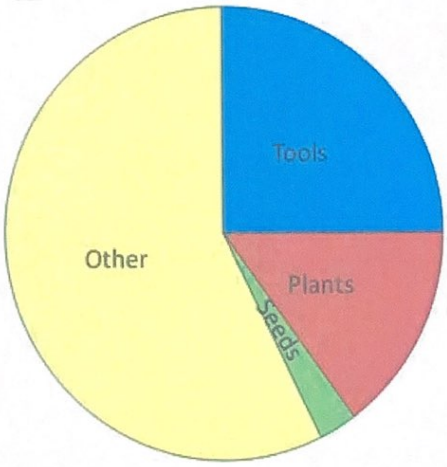

Chart 2: Total income for category

1. According to Chart 1, what **percentage** of items sold were seeds?

Marks available: 3

You must show your working:

$360 - (90 + 120 + 78) = 72°$ for seeds

$\frac{72}{360} \times 100 = 20\%$

Your answer:

20 %

2. According to Chart 1, what **fraction** of items sold were plants? Show your answer in its **simplest form**.

Marks available: 2

You must show your working:

$\frac{120}{360} = \frac{1}{3}$

Your answer:

$\frac{1}{3}$

3. According to Chart 2, what was the income from plants last month?

Marks available: 3

You must show your working:

$\frac{54}{360} \times 100 = 15\%$ for plants

$0.15 \times £9720 = £1458$

Your answer:

£1458

Total marks available: 19

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Please turn over for the next activity.

Activity 2

Task A

Sanjit has a table to display plants, like the one shown.

The table top is 1.4 metres (m) wide and 2 m long.

He has square plant pots in 2 sizes, similar to those below.

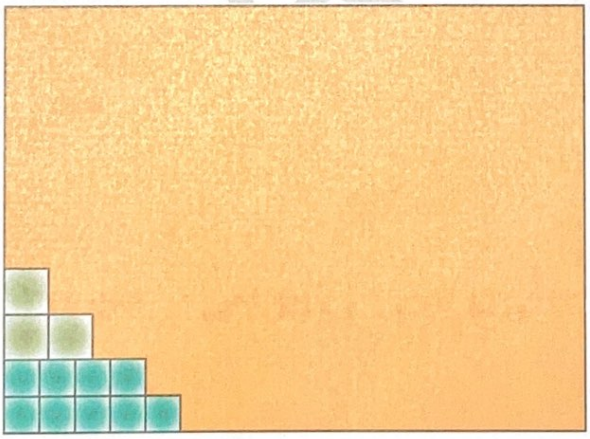
The smaller pots are 12 centimetres (cm) wide and the larger pots are 15 cm wide.

Each table will have 2 rows of the smaller pots along one 2 m side.

The rest of the space will be filled with the larger pots. Pots must not hang over the edge of the table.

The table plan shows some pots on a table.

Table Plan



Not to scale

How many of each size of pot will Sanjit need?

Marks available: 4

You must show your working:

200 ÷ 12 = 16.66... = 16 small pots per row

For 2 rows of small pots there will be 2 × 16 = 32 small pots

140 − (2 × 12) = 116 cm

200 ÷ 15 = 13.33... = 13 large pots per row

116 ÷ 15 = 7.733... = 7 large pots per column

13 × 7 = 91 large pots

Your answer:

32 small pots

91 large pots

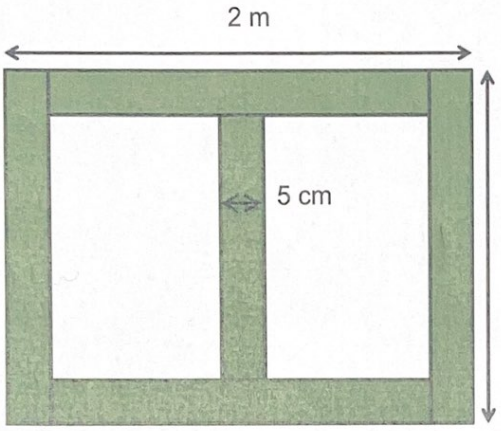
Task B

On another table Sanjit will display plant pots on sand.

The table base is 2 m by 1.4 m

The sand is put in a frame on top of the base and is made of wood that is 5 cm wide.

The diagram shows the plan of the frame.



Not to scale

1. What **length** of wood is needed to make the complete frame?

Marks available: 3

You must show your working:

Top and bottem: $2 \times (200-5-5) = 380\,cm$

Left and right: $2 \times 140 = 280\,cm$

Middle: $140 - 5 - 5 = 130\,cm$

Total: $380 + 280 + 130 = 790\,cm$

$= 7.9\,m$

Your answer:

7.9 m

2. The sand needs to be 10 cm deep.

What volume of sand is needed? Give your answer in **cubic centimetres**.

Marks available: 3

You must show your working:

length = 200 - 5 - 5 - 5 = 185cm

Height = 140 - 5 - 5 = 130cm

Volume = 185 x 130 x 10 = 240500 cm^3

Your answer:

240500 cm^3

Total marks available: 10

Activity 3

Task A

Marta is helping customers in the lawn section. Mr Khan has a circular lawn.

It has a diameter of 6 metres (m)

Where **r** is the radius, for π use 3.14

area of a circle = πr^2 circumference of a circle = $2\pi r$

1. What is the area of his lawn?

Marks available: 2

You must show your working:

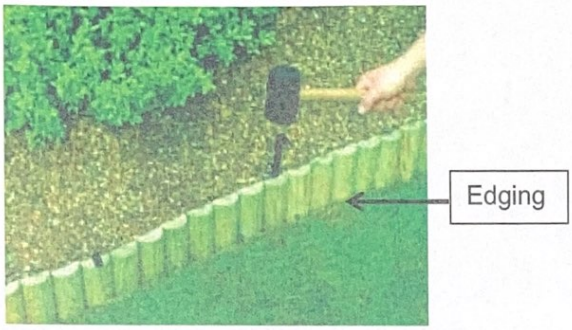
radius = 6 ÷ 2 = 3 m

Area = πr^2 = 3.14 × 3^2 = 28.26 m^2

Your answer:

28.26 m^2

2. Mr Khan wants to edge his circular lawn.



What is the length of edging needed for Mr Khan's lawn?

Marks available: 2

You must show your working:

Circumference = $2\pi r$
$= 2 \times 3.14 \times 3$
$= 18.84\text{m}$

Your answer:

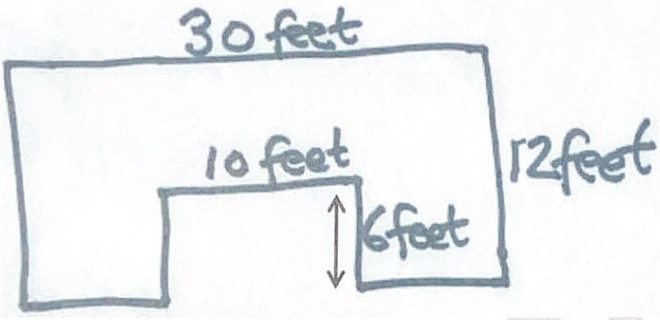
18.84m

Task B

Marta is helping two customers to buy lawn feed.

1. Mr Jones has measured his lawn in feet.

He shows Marta a sketch of his lawn.



What is the area of the lawn in **square feet (ft²)**?

Marks available: 3

You must show your working:

Large rectangle Area = $30 \times 12 = 360\ ft^2$

Small rectangle Area = $10 \times 6 = 60\ ft^2$

Total Area = $360 - 60 = 300\ ft^2$

Your answer:

$300\ ft^2$

2. Mrs Santaniello wants to buy lawn feed.

Lawn feed is sold in 2 sizes as shown in the table below.

Packet Size	Price
2 kg	£13.00
5 kg	£28.50

35 grams (g) is needed per square metre (m^2).

The area of her lawn is 208 m^2. She wants to apply it just once.

What packet sizes should she buy to get the cheapest price? Explain your answer.

Marks available: 4

You must show your working:

$208 \times 35 = 7280\,g = 7.28\,kg$

she would need $\frac{7.28}{2} = 3.64 = 4$ small packets

$4 \times £13 = £52.00$

She would need $\frac{7.28}{5} = 1.456 = 2$ large packets

$2 \times £28.50 = £57.00$

Your answer:

she should choose the 2kg packet size.

Total marks available: 11

End of assessment

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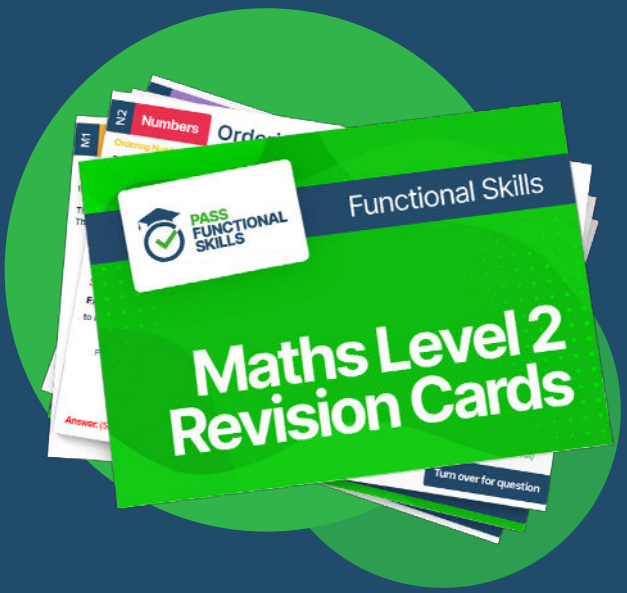

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