



openawards

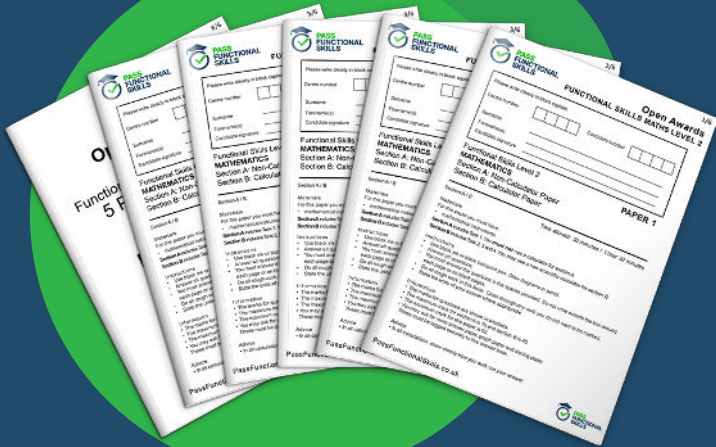
Functional Skills Mathematics Level 2



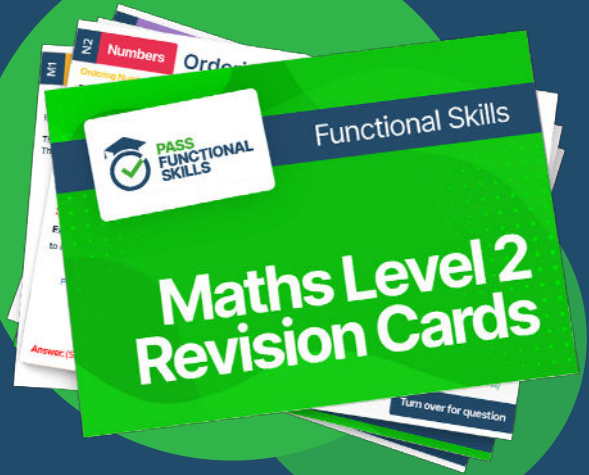
Practice



PASS
FUNCTIONAL
SKILLS



Functional Skills Maths
Level 2 Practice Papers



Functional Skills Maths
Level 2 Revision Cards



Functional Skills English Level 2
Practice Papers & Revision Cards



Functional Skills Maths
Level 2 Pocket Revision Guide

Or visit

passfunctionalskills.co.uk

CONTENTS PAGE

1. [Online Practice Assessment](#)
2. [Practice Assessment](#)



Mathematics Level 2
Online Practice
Assessment

The Practice Assessment for Level 2 Functional Skills Mathematics can be viewed on the XAMS platform by clicking [here](#).

LEVEL 2 FUNCTIONAL SKILLS QUALIFICATION IN MATHEMATICS



SECTION A - QUESTION AND ANSWER PAPER NON-CALCULATOR – 30 MINUTES PRACTICE ASSESSMENT 1 (FSM207P)

Do not open this paper until you are told to do so by the invigilator.

Overall assessment marks available: **60**
Overall assessment time limit: **2 HOURS**

There are **TWO** Sections to this assessment:

- **Section A** includes Task 1. You **must not** use a calculator for this section.
Total marks available: 15. Time limit: 30 minutes
- **Section B** includes Task 2, 3 and 4. You can use a non-scientific calculator for this section
Total marks available: 45. Time limit: 1 hour and 30 minutes

For Section A you need:

- This question and answer paper
- A pen with black or blue ink
- A pencil
- A ruler and a protractor

INTERNET ACCESS IS NOT PERMITTED AND YOU MUST NOT USE A CALCULATOR

The invigilator will stop the assessment after 30 minutes. You must hand in this question and answer paper at this point.

The invigilator will then hand out **Section B** and a non-scientific calculator. You will then have a further 1 hour and 30 minutes to complete **Section B**.

Instructions

1. Please sign and date below to confirm that your details are correct and that you have understood the instructions.
2. Read each task and question carefully.
3. Remember to show all your workings out clearly.
4. The number of marks available for each question is shown in brackets. Use these marks to guide you on how long to spend on each question.
5. Answer **all** questions using the space provided on this question and answer paper.
6. If you have time, check your work for **Section A** at the end. Once you have handed in this question and answer paper, you will not be able to check this again.
7. If you use extra paper, write your name, learner number and the question number you are answering on it and securely attach it to this question and answer paper.

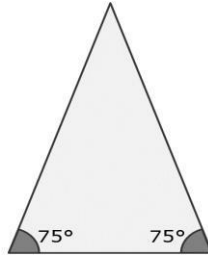
Learner name:	
Learner number:	
Centre number:	
Signature:	
Today's date:	

Page left intentionally blank

Section A

Question 1

Below is an isosceles triangle.



What is the size of the missing angle?

(1 mark)

Show your calculations and/or workings out here:

$$75 + 75 = 150$$

$$180 - 150 = 30^\circ$$

Write your answer in this box:

$$30^\circ$$

Question 2

Calculate $42.567 + 49.63$

(1 mark)

Show your calculations and/or workings out here:

$$\begin{array}{r} 42.567 \\ + 49.630 \\ \hline 92.197 \end{array}$$

Write your answer in this box:

$$92.197$$

Question 3Calculate $54.983 - 33.947$

(1 mark)

Show your calculations and/or workings out here:

$$\begin{array}{r} 54.983 \\ - 33.947 \\ \hline 21.036 \end{array}$$

Write your answer in this box:

21.036

Question 4

What is the mode of this data?

(1 mark)

61 74 53 98 64 44 52 61 54 79 61 74.

Show your calculations and/or workings out here:

Write your answer in this box:

61

Question 5

Calculate the median of this data:

(2 marks)

96.3 56.1 34.4 72.9 15.32 63.7 52.7 43.9 27.91 37.76

Show your calculations and/or workings out here:

$$\begin{array}{cccccccccccc} 15.32 & 27.91 & 34.4 & 37.76 & 43.9 & 52.7 & 56.1 & 63.7 & 72.9 & 96.3 \\ & & & & \uparrow & & & & & \\ & & & & \frac{43.9 + 52.7}{2} & = & \frac{96.6}{2} & & & \\ & & & & & & = & 48.3 & & \end{array}$$

Write your answer in this box:

 48.3

Question 6

A charity wants to raise a quarter of a million pounds over six months. They have monthly expenses of £1467.26.

In five months they raise the amounts below:

Month	Amount in £
March	£26,346
April	£32,783
May	£25,256
June	£67,327
July	£53,893

The manager comments "We need to raise £52,000 in August to reach our target."

Is the manager correct? Give a reason for your answer. (5 marks)

Show your calculations and/or workings out here:

income

$$\begin{array}{r}
 26346 \\
 32783 \\
 25256 \\
 + 67327 \\
 \hline
 53893 \\
 \hline
 205605 \\
 2232
 \end{array}$$

expenses

$$\begin{array}{r}
 146726 \\
 \times 6 \\
 \hline
 880356 \\
 24413
 \end{array}$$

income - expenses:

$$\begin{array}{r}
 \overset{9}{2} \overset{14}{0} \overset{14}{5} \overset{16}{0} \overset{4}{5} \overset{7}{0} \overset{0}{0} \\
 - \quad 8803.56 \\
 \hline
 196801.44
 \end{array}$$

needed in August:

$$\begin{array}{r}
 \overset{14}{2} \overset{14}{5} \overset{14}{0} \overset{14}{0} \overset{14}{0} \overset{14}{0} \overset{7}{0} \\
 - \quad 196801.44 \\
 \hline
 053198.56
 \end{array}$$

needs £ 53,198.56

Write your answer and reason in this box:

No - need to raise £53,198.56 to reach target

Question 7

Carmel and Fiona each want to walk 7 miles in a week.

	Monday	Tuesday	Wednesday	Thursday	Friday
Carmel	$\frac{2}{3}$ mile	$\frac{2}{3}$ mile	$\frac{2}{3}$ mile	$\frac{2}{3}$ mile	$\frac{2}{3}$ mile
Fiona	$1\frac{1}{2}$ miles	$1\frac{1}{6}$ miles	$1\frac{1}{6}$ mile	$\frac{1}{3}$ mile	0 mile

How much further does each of them need to walk at the weekend to achieve their aim? (4 marks)

Show your calculations and/or workings out here:

Carmel: $\frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} = \frac{10}{3}$ or $3\frac{1}{3}$

needs to walk $7 - \frac{10}{3}$ miles

$$\frac{21}{3} - \frac{10}{3}$$

$$= \frac{11}{3} = \underline{\underline{3\frac{2}{3}}}$$

Fiona: $1\frac{1}{2} + 1\frac{1}{6} + 1\frac{1}{6} + \frac{1}{3}$

$$= \frac{3}{2} + \frac{7}{6} + \frac{7}{6} + \frac{1}{3}$$

$$= \frac{9}{6} + \frac{7}{6} + \frac{7}{6} + \frac{2}{6}$$

$$= \frac{25}{6}$$

needs to walk $7 - \frac{25}{6}$ miles

$$= \frac{42}{6} - \frac{25}{6}$$

$$= \frac{17}{6}$$

$$= \underline{\underline{2\frac{5}{6}}}$$

Write your answers in this box:

Carmel: $3\frac{2}{3}$

Fiona: $2\frac{5}{6}$

[End of Section A]

Page left intentionally blank

Page left intentionally blank

LEVEL 2 FUNCTIONAL SKILLS QUALIFICATION IN MATHEMATICS



SECTION B - QUESTION AND ANSWER PAPER CALCULATOR – 1 HOUR 30 MINUTES PRACTICE ASSESSMENT 1 (FSM207P)

Do not open this paper until you are told to do so by the invigilator.

Overall assessment marks available: **60**
Overall assessment time limit: **2 HOURS**

There are **TWO** Sections to this assessment:

- **Section A** – please ensure you have handed in Section A before beginning Section B
- **Section B** includes Task 2, 3 and 4. You can use a non-scientific calculator for this section.

Total marks available: 45. Time limit: 1 hour and 30 minutes.

For Section B you need:

- This question and answer paper
- A pen with black or blue ink
- A pencil
- A ruler and a protractor
- A non-scientific calculator

INTERNET ACCESS IS NOT PERMITTED

You now have a further 1 hour and 30 minutes to complete **Section B**.

Instructions

1. Please sign and date below to confirm that your details are correct and that you have understood the instructions.
2. Read each task and question carefully.
3. Remember to show all your workings out clearly.
4. The number of marks available for each question is shown in brackets. Use these marks to guide you on how long to spend on each question.
5. Answer **all** questions using the space provided on this question and answer paper.
6. If you have time, check your work for **Section B** at the end.
7. If you use extra paper, write your name, learner number and the question number you are answering on it, and securely attach it to this question and answer paper.
8. At the end of this section (**Section B**), hand in this question and answer paper and all notes to the invigilator.

Learner name:	
Learner number:	
Centre number:	
Signature:	
Today's date:	

Page left intentionally blank

Section B

Question 8

Round 24.927 to two decimal places.

(1 mark)

Show your calculations and/or workings out here:

Write your answer in this box:

24.93

Question 9

What is the probability of rolling a 3 on a fair six-sided dice?

Give your answer as a percentage.

(1 mark)

Show your calculations and/or workings out here:

$$\frac{1}{6} \times 100 = 16.667\%$$

Write your answer in this box:

16.667%

Question 10

What is 25 as a fraction of 350? Give your answer in its simplest form. (1 mark)

Show your calculations and/or workings out here:

$$\frac{25}{350} = \frac{1}{14}$$

Write your answer in this box:

$$\frac{1}{14}$$

Question 11

A children's nursery has three play rooms for different age groups. They have 17 staff members.

They charge £38.50 per day for each child.

The table below shows the maximum number of children allowed per room and the minimum staff ratio required.

	Age	Max room capacity	Ratio of staff to children
A	Under 2 years old	20	1:2
B	2-3 years old	22	1:4
C	3 years old and above	22	1:8

What is the maximum income they can make in one day with 17 staff? (4 marks)

Show your calculations and/or workings out here:

Staff needed A B C
 $20 \div 2 = 10$ $22 \div 4 = 5.5$ $22 \div 8 = 2.75$
 10 staff 6 staff 3 staff

Only allowed 17 staff so fill room B and C and have 8 staff in room A.
 8 staff can look after $\frac{8}{10} \times 20 = 16$ children

Total number of children = $16 + 22 + 22 = 60$

income = $60 \times \pounds 38.50$
 = £2310

Write your answer in this box:

£2310

Question 12

On Monday 34% of the children who usually attend the nursery were absent.
29 children attended the nursery on Monday.

How many children would usually be at the nursery on Monday? (2 marks)

Show your calculations and/or workings out here:

34% absent so 66% present

$$29 \div 0.66 = 43.93$$

44 children

Write your answer in this box:

44

Question 13

Every weekday the nursery buys enough milk for 37 children to have 250 ml of milk each. An additional two pints per day is bought for the staff.

The milk comes in 4-pint cartons. The price of a carton of milk has increased by 10p.

How much more will the nursery pay for milk each week? (4 marks)

$$\overset{\times 1.76}{\curvearrowright} \\ \mathbf{1 \text{ litre} = 1.76 \text{ pints}}$$

Show your calculations and/or workings out here:

$$\text{Use } 250 \times 37 = 9250 \text{ ml per day, so } 9250 \times 5 = 46250 \text{ ml per week} \\ = 46.25 \text{ L per week}$$

$$46.25 \times 1.76 = 81.4 \text{ pints for children per week}$$

$$2 \times 5 = 10 \text{ pints for staff per week}$$

$$\text{so } 91.4 \text{ pints total per week}$$

$$\text{number of cartons is } 91.4 \div 4 = 22.85 \text{ so } 23 \text{ per week}$$

$$\text{costs extra } 23 \times 0.10 = \pounds 2.30$$

Write your answer in this box:

$\pounds 2.30$

Question 14

Sam is a nursery nurse and earns £8.58 per hour for the first 35 hours worked per week.

Any hours over 35 per week are paid at the overtime rate.

These are the hours that Sam works this week:

Day	Amount of time worked
Monday	9 hours
Tuesday	8 hours
Wednesday	8 hours 45 minutes 8.75 hrs
Thursday	8 hours 30 minutes 8.5 hrs
Friday	8 hours

total 42.25 hrs

This week Sam earns £383.24.

How much does he get paid for each hour of overtime worked? (3 marks)

Show your calculations and/or workings out here:

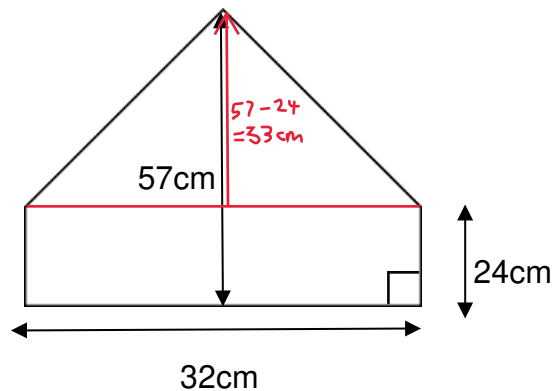
$42.25 - 35 = 7.25 \text{ hrs overtime}$
 standard pay is $35 \times 8.58 = \pounds 300.30$
 so overtime pay is $383.24 - 300.30 = \pounds 82.94$
 overtime rate is $82.94 \div 7.25 = \underline{\underline{\pounds 11.44}}$

Write your answer in this box:

$\pounds 11.44$

Question 15

The shape below has one line of symmetry.



What is the area of the shape?

(3 marks)

Show your calculations and/or workings out here:

rectangle: $24 \times 32 = 768 \text{ cm}^2$
 triangle: $\frac{32 \times 33}{2} = 528 \text{ cm}^2$
 total: $768 + 528 = \underline{\underline{1296 \text{ cm}^2}}$

Write your answer in this box:

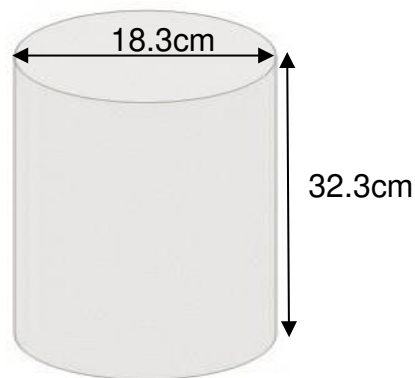
1296 cm^2

Question 16

A company makes 600 cylindrical vases. 12.5% of vases are discarded due to faults.

The sides of the remaining vases will be painted either blue or white. (not base)

They have $800\,000\text{cm}^3$ of blue paint and will use all of this up before painting the rest of the vases with white paint.



What is the probability that a vase picked at random will be blue?

Give your answer as a decimal.

(7 marks)

Show your calculations and/or workings out here:

$$\begin{aligned} \text{Surface area} &= 3.142 \times 18.3 \times 32.3 \\ &= 1857.20478 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{Vases discarded} &= 0.125 \times 600 \\ &= 75 \end{aligned}$$

$$\text{so } 600 - 75 = 525 \text{ vases left}$$

$$\begin{aligned} \text{number of blue vases} &= \frac{800,000}{1857.20478} \\ &= 430.755 \\ \text{so } 430 \text{ whole vases} \end{aligned}$$

$$\begin{aligned} \text{Probability of picking blue vase} &= \frac{430}{525} \\ &= \underline{\underline{0.8190}} \end{aligned}$$

Write your answer in this box:

0.8190

Question 17

The company also makes glazed pots.

To make the glaze they mix $\frac{1}{2}$ pint of water for every 1lb of glaze powder.

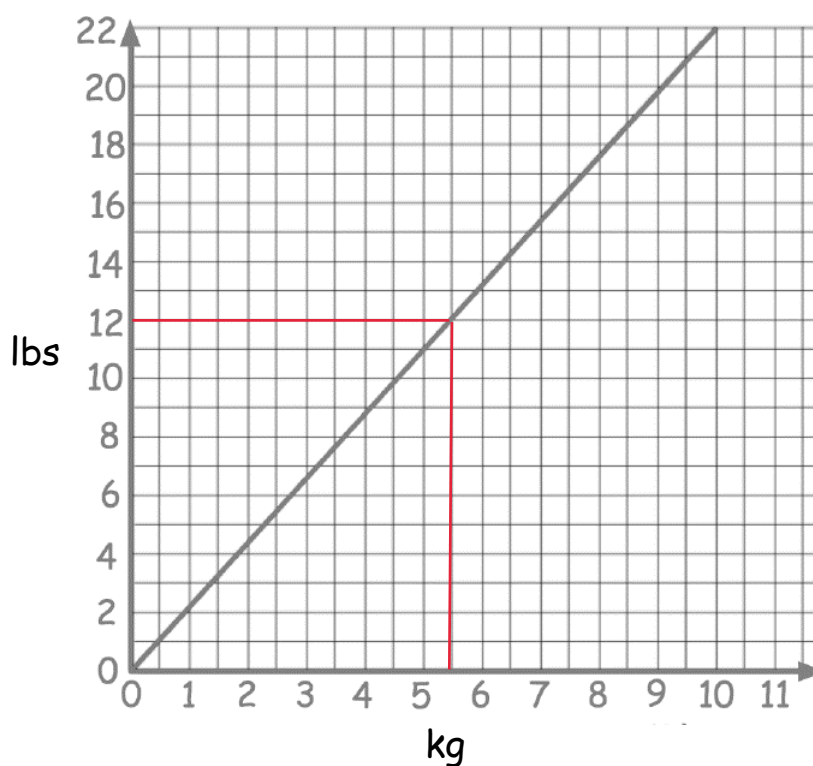
They have this information about glaze powder:

	Pack Size	Price
A	0.25kg	£9.86
B	0.75kg	£24.97
C	1 kg	£33.98

They need to make 6 pints of glaze and want to spend as little as possible.

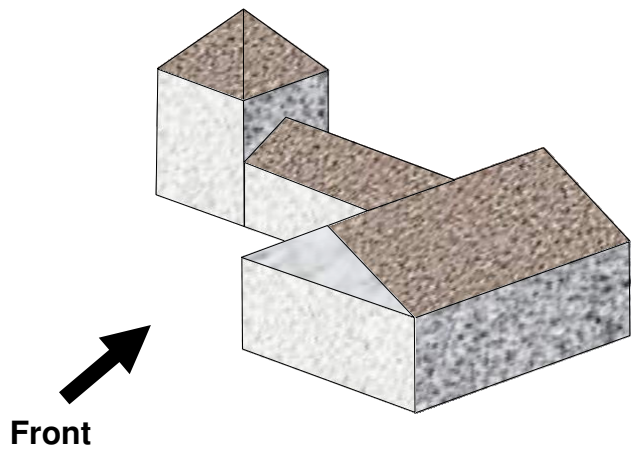
Which pack size is the cheapest?

(4 marks)



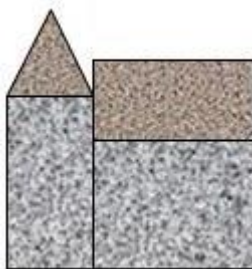
Question 18

This is an artist's 3d sketch of a new building.

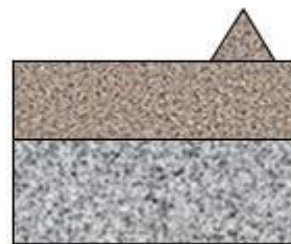


Which of the diagrams below show the front elevation of the building above? (1 mark)

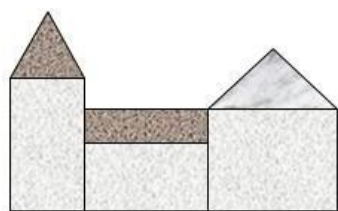
A



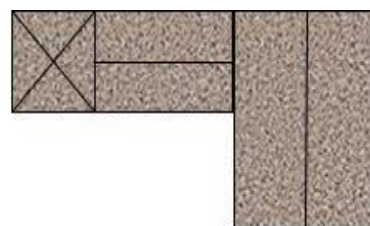
B



C



D



Write your answer in this box:

C

Question 19Using the following formula, calculate F when $b = 2.5$

(2 marks)

$$F = 5(b - 1.96)^2$$

Show your calculations and/or workings out here:

$$F = 5(2.5 - 1.96)^2$$
$$= 1.458$$

Write your answer in this box:

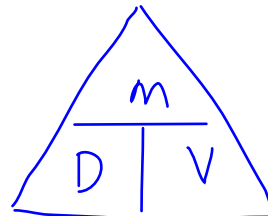
1.458

Question 20

Dylan is conducting an experiment and wants to choose the ball with the lowest density.

Ball A – diameter 7cm, mass 1.742kg

Ball B – diameter 6cm, mass 1.040kg



$$\text{Volume of sphere} = \frac{4}{3} \pi r^3$$

$$\text{Density} = \text{mass} \div \text{volume}$$

Which ball should he choose?

(5 marks)

Show your calculations and/or workings out here:

A: $\text{volume} = \frac{4}{3} \times 3.142 \times 3.5^3 = 179.6177 \text{ cm}^3$ $\text{Density} = 1.742 \div 179.6177 = \underline{\underline{0.009698 \text{ kg/cm}^3}}$

B: $\text{volume} = \frac{4}{3} \times 3.142 \times 3^3 = 113.112$ $\text{Density} = 1.040 \div 113.112 = \underline{\underline{0.009194 \text{ kg/cm}^3}}$ ← lower density

Write your answer in this box:

B

Question 21

A swimming club has two swimming teams. One team will be chosen to represent the club at a gala.

The performance of the two teams over previous race meetings is shown below:

Team performance over six race meetings (time in seconds)

	1	2	3	4	5	6
Team A	63.50	64.56	67.01	71.87	69.21	69.00
Team B	68.21	65.74	67.21	69.21	77.61	62.19

Becca and Cody are swim coaches.

Becca says: 'Team A should be chosen as their average time is lower.'

Cody says: 'Team B should be chosen as their average time is lower.'

Explain how both coaches are correct. You must show calculations to support your explanation.

(4 marks)

Show your calculations and/or workings out here:

mean for A: $\frac{63.50 + 64.56 + 67.01 + 71.87 + 69.21 + 69.00}{6} = \frac{405.15}{6} = 67.525$

mean for B: $\frac{68.21 + 65.74 + 67.21 + 69.21 + 77.61 + 62.19}{6} = \frac{410.17}{6} = 68.362$

median for A: 63.50 64.56 67.01 69.00 69.21 71.87
 $\frac{67.01 + 69.00}{2} = 68.005$

median for B: 62.19 65.74 67.21 68.21 69.21 77.61
 $\frac{67.21 + 68.21}{2} = 67.71$

Write your explanation in this box:

Team A has lower mean but Team B has lower median

Question 22

The swimming club need to raise £135 for transport to the swimming gala.

They buy 20 tracksuits for £15.98 each and will sell them to raise money.

What percentage profit should they add to the cost of the tracksuits to raise the £135 they need?

(3 marks)

Show your calculations and/or workings out here:

$$\text{total cost} = 15.98 \times 20 = \underline{\pounds 319.60}$$
$$\text{percentage} = \frac{135}{319.60} \times 100 = 42.24 \%$$

Write your answer in this box:

$$42.24 \%$$

[End of assessment]

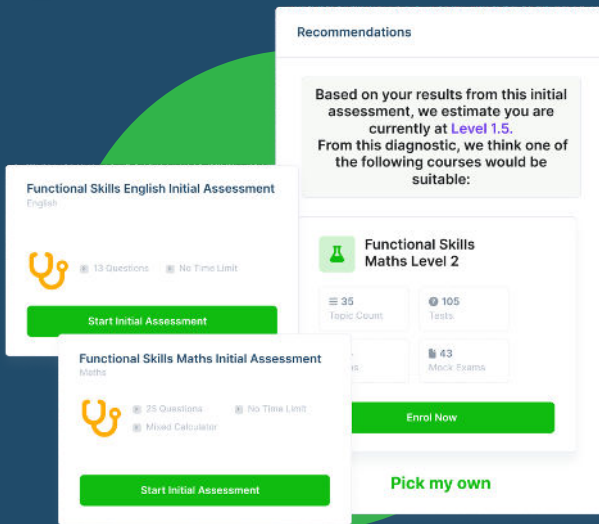
Page left intentionally blank

Page left intentionally blank

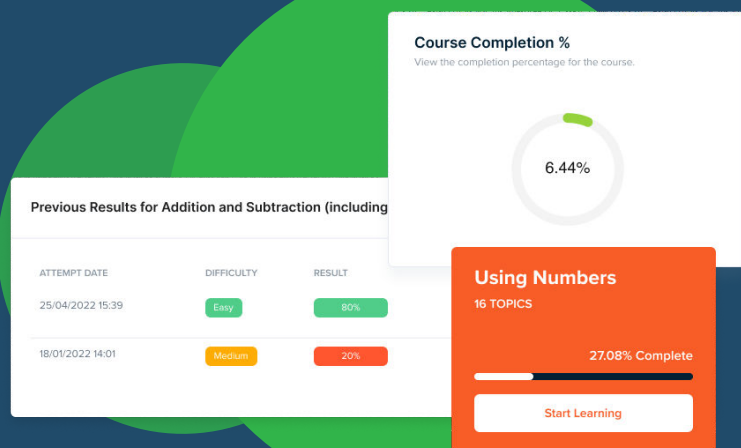
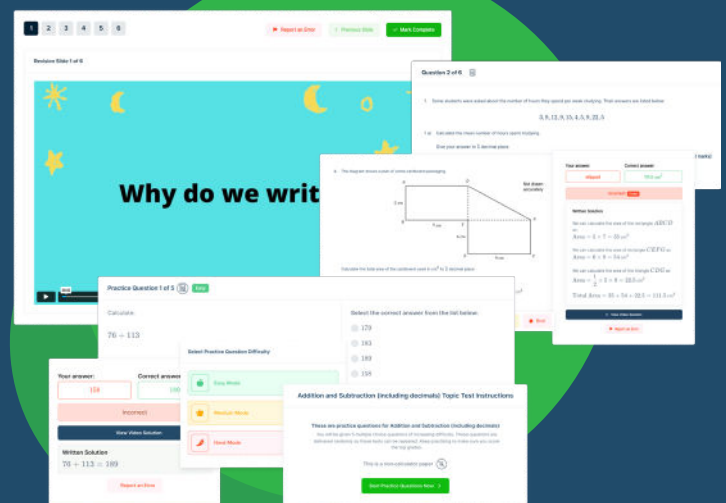


FUNCTIONAL SKILLS ONLINE COURSES

- ✓ 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 multiple 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