



openawards

# Functional Skills Mathematics Level 1

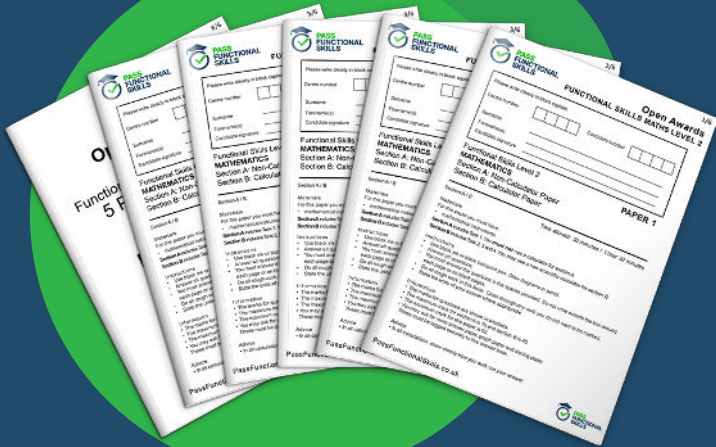
(Practice Assessment Set 3)



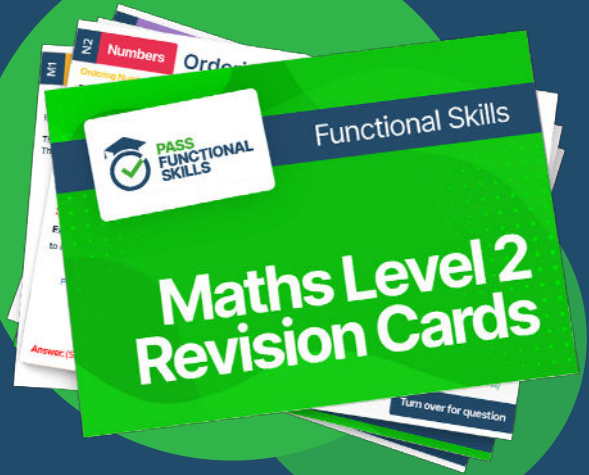
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## **Mathematics Level 1 Online Practice Assessment Set 3**

This Practice Assessment for Level 1 Functional Skills Mathematics can be viewed on the XAMS platform by clicking [here](#).

# LEVEL 1 FUNCTIONAL SKILLS QUALIFICATION IN MATHEMATICS



## SECTION A - QUESTION AND ANSWER PAPER NON-CALCULATOR – 30 MINUTES PRACTICE ASSESSMENT 3 (FSM101P)

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**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

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### 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**.

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### 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:	

## Section A

### Question 1

Calculate  $26 + 11 \times 7$

(1 mark)

Show your calculations and/or workings out here:

$$\begin{array}{l} 26 + 11 \times 7 \\ 26 + 77 \\ \underline{\underline{103}} \end{array}$$

Write your answer in this box:

103

### Question 2

Calculate  $12^2$

(1 mark)

Show your calculations and/or workings out here:

$$12 \times 12 = 144$$

Write your answer in this box:

144

### Question 3

Calculate  $5.07 \times 1000$

(1 mark)

Show your calculations and/or workings out here:

5.070

Write your answer in this box:

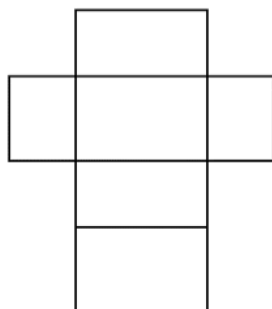
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### Question 4

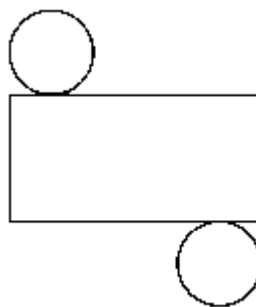
Which of the following nets will make a pyramid shape?

(1 mark)

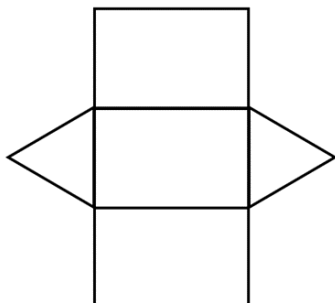
A



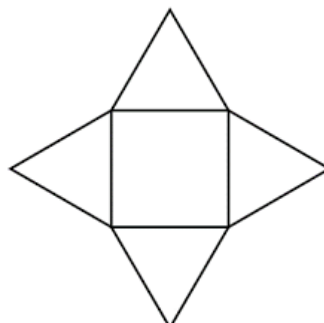
B



C



D



Write your answer in this box:

D

### Question 5

Calculate  $63 \div 7$

(1 mark)

Show your calculations and/or workings out here:

$$63 \div 7 = 9$$

Write your answer in this box:

$9$

### Question 6

Estimate your answer to the following calculation:

$23.32 + 13.91 =$

(1 mark)

Show your calculations and/or workings out here:

$$23 + 14 = 37$$

Write your answer in this box:

$37$



**Question 7**

Raffle tickets numbered 1 to 100 are mixed up and put into a hat. Only raffle tickets that end with a 5 can win a prize.

What is the probability that a ticket drawn out of the hat will win a prize? Express your answer as a fraction in its simplest form.

(2 marks)

Show your calculations and/or workings out here:

5 15 25 35 45 55 65 75 85 95

10 tickets end with a 5, out of 100 tickets

$$\frac{10}{100} = \frac{1}{10}$$

Write your answer in this box:

$$\frac{1}{10}$$

**Question 8**

The table below shows James' scores out of 50 for his last 4 college assignments.

Assignment	1	2	3	4
Score	30	43	48	35

What is James' mean score for his last 4 assignments?

(2 marks)

Show your calculations and/or workings out here:

$$30 + 43 + 48 + 35 = 156$$

$$156 \div 4 = \underline{\underline{39}}$$

$$\begin{array}{r} 30 \\ 43 \\ 48 \\ 35 \\ \hline 156 \\ 1 \end{array}$$

$$\begin{array}{r} 039 \\ \hline 4 \overline{)156} \end{array}$$

Write your answer in this box:

39
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**Question 9**

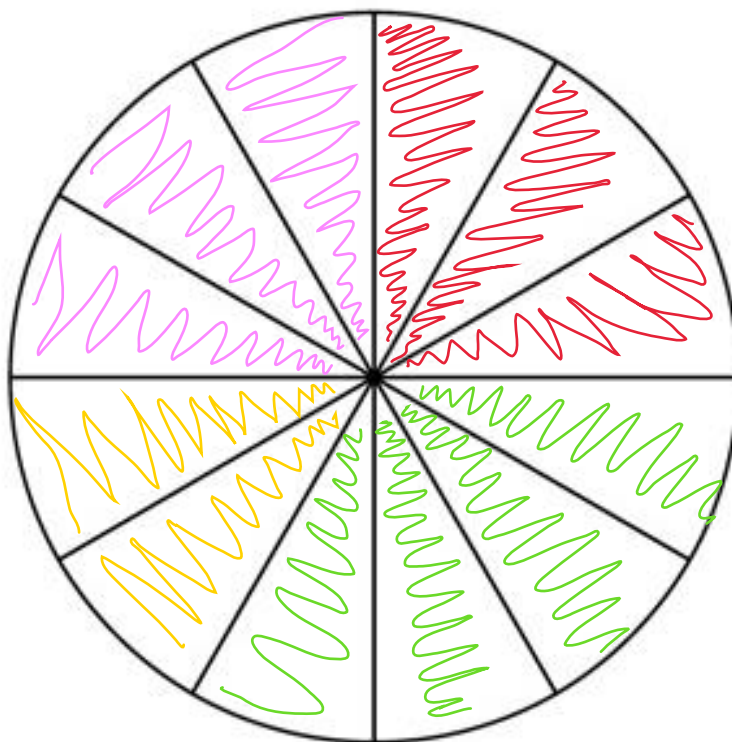
The table below shows the result of a survey of how 48 people travel to work.

Car	Bus	Cycle	Walk
12	16	8	12

total  
48

Draw a pie chart to represent the information in the table.

(3 marks)



12 segments = 48 people  
1 segment = 4 people

3 segments = 12 people car, walk

4 segments = 16 people bus

2 segments = 8 people cycle

Key	
Car	
Bus	
Cycle	
Walk	

**Question 10**

The table below shows the result of a survey of how 48 people travel to work.

Car	Bus	Cycle	Walk
12	16	8	12

How many degrees in the pie chart represent the number of people that cycle to work? Refer to the pie chart you drew in Question 9.

(2 marks)

Show your calculations and/or workings out here.

Each segment is  $360 \div 12 = 30^\circ$

Cycling is 2 segments, so  $2 \times 30 = \underline{\underline{60^\circ}}$

Write your answer in this box:

60°

**[End of Section A]**

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# LEVEL 1 FUNCTIONAL SKILLS QUALIFICATION IN MATHEMATICS



## SECTION B - QUESTION AND ANSWER PAPER CALCULATOR – 1 HOUR 30 MINUTES PRACTICE ASSESSMENT 3 (FSM101P)

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**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

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**INTERNET ACCESS IS NOT PERMITTED**

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

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### 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.

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

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## Section B

## Question 11

Put the fractions in order from largest to smallest.

(2 marks)

$$\begin{array}{ccccc} \frac{2}{3} & \frac{9}{10} & 1\frac{1}{2} = \frac{3}{2} & 1\frac{1}{4} = \frac{5}{4} & \frac{3}{4} \\ 2 \div 3 = 0.666 & 9 \div 10 = 0.9 & 3 \div 2 = 1.5 & 5 \div 4 = 1.25 & 3 \div 4 = 0.75 \end{array}$$

Write your answer in this box:

$1\frac{1}{2}$	$1\frac{1}{4}$	$\frac{9}{10}$	$\frac{3}{4}$	$\frac{2}{3}$
----------------	----------------	----------------	---------------	---------------

## Question 12

Write the number in digits:

Six hundred and fifty eight thousand, two hundred and nine.

(1 mark)

Write your answer in this box:

658,209
---------

**Question 13**

Freddie is taking a group of 53 children on a trip to a theme park. He needs a ratio of at least 1:8 of adults to children.

How many adults need to go on the trip?

(2 marks)

Show your calculations and/or workings out here:

$$\begin{array}{l} \div 8 \left( \begin{array}{l} 8 \text{ parts} = 53 \text{ people} \\ 1 \text{ part} = 6.625 \text{ people} \end{array} \right) \div 8 \\ \quad \quad \quad \uparrow \\ \quad \quad \quad \text{so needs } \underline{\underline{7}} \text{ adults} \end{array}$$

Write your answer in this box:

7

**Question 14**

Freddie sees this notice about ticket prices. He decides to book the tickets early.

<p style="text-align: center;"><b>Tickets</b></p> <p style="text-align: center;">£21.95 per child</p> <p style="text-align: center;"><b>Book early and get a 15% discount off the total price</b></p>
---

Calculate the total price Freddie will pay for the 53 children's tickets, then round to the nearest pound.

(4 marks)

Show your calculations and/or workings out here:

<p>total = <math>53 \times 21.95</math> = <math>£1163.35</math></p> <p>15% discount, so 85% of cost left</p> <p><math>1163.35 \times 0.85 = £988.85</math></p> <p>or <u>£989</u> to nearest pound</p>
---

Write your answer in this box:

<p>£989</p>
-------------

### Question 15

Freddie wants to find out about children's favourite rides at the theme park. He records this information:

Name of Child	Favourite Ride
James	Log Flume
Hannah	Pirate Ship
Chloe	Log Flume
Imran	Roller Coaster
Ben	Log Flume
Sean	Pirate Ship
Katy	Roller Coaster
Sana	Log Flume
Craig	Pirate Ship
Rakesh	Log Flume
Bethany	Pirate Ship
Caitlin	Log Flume

Complete the table below to show how many children liked each ride.

(2 marks)

Ride	Tally	Total
Log Flume		6
Roller Coaster		2
Pirate Ship		4
<b>Overall total</b>		12

**Question 16**

Freddie needs to make sure the children are back from the theme park by 5 pm. He has made these notes.

**Notes**

- Spend  $3\frac{1}{2}$  hours on the rides
- Lunch  $\frac{3}{4}$  hour
- Acrobatic show 40 minutes
- Coach journey  $1\frac{1}{2}$  hours one way

What time should the coach leave in the morning to ensure they are back by 5 pm?

Explain your answer.

(4 marks)

Show your calculations and/or workings out here:

$$\begin{aligned}\text{Total time} &= 3\text{hr} + 30\text{min} + 45\text{min} + 40\text{min} + 1\text{hr} + 30\text{min} \\ &= 7\text{hr } 55\text{min}\end{aligned}$$

Arrive back at 5pm, so leave 9.05

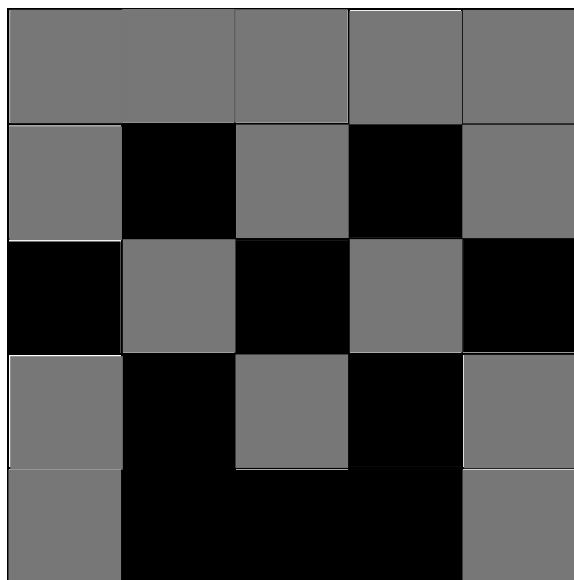
Write your answer and your explanation in this box:

Leave at 9.05 as it will take 7hr 55mins, which takes us to 5.00

**Question 17**

Fully complete the grid with black and grey tiles to make a symmetrical pattern.

(2 marks)



Black



Grey



**Question 18**

How many lines of symmetry does your pattern have? Refer to the grid you completed in Question 17.

(1 mark)

Write your answer in this box:

**Question 19**

Anya has decided to improve her health. She goes to the gym to lift weights. She uses a 20 kg barbell and adds 3 extra weights to each side.

What will be the total weight if she adds a 5 kg, a 2.5 kg and a 1.25 kg weight to each side of the barbell?

(2 marks)

Show your calculations and/or workings out here:

$$20 + 5 + 5 + 2.5 + 2.5 + 1.25 + 1.25 = \underline{\underline{37.5 \text{ kg}}}$$

Write your answer in this box:

37.5 kg

**Question 20**

Anya consumes 1820 calories each day.

She wants to ensure she is eating enough protein. She finds information which tells her that  $\frac{1}{3}$  of her calories should come from fat,  $\frac{1}{4}$  of her calories from carbohydrates and the rest from protein.

Complete the table to show the number of calories for fat, carbohydrate and protein.

Nutrient	Fat	Carbohydrate	Protein
Calories			

Anya thinks more than  $\frac{2}{5}$  of her calories should come from protein.

Is she correct? Give a reason for your answer.

(5 marks)

Show your calculations and/or workings out here:

$$\frac{1}{3} \text{ of } 1820 = 1820 \div 3 = 606.666\dots \text{ fat}$$

$$\frac{1}{4} \text{ of } 1820 = 1820 \div 4 = 455 \text{ carb}$$

$$1820 - 606.667 - 455 = 758.333\dots \text{ Protein}$$

$$\frac{2}{5} \text{ of } 1820 = 1820 \div 5 \times 2 = 728$$

← she has 758.33 calories from protein, so yes, more than  $\frac{2}{5}$

Write your answer and reason in this box:

Yes, it will be more than  $\frac{2}{5}$



### Question 21

Anya tracks her weight over 8 weeks.

Week	Weight loss/gain (lb)
1	-2
2	-1.5
3	+0.5
4	+1
5	-0.5
6	-2
7	+0.5
8	-2

$\downarrow -3.5$   
 $\downarrow -3$   
 $\downarrow -2$   
 $\downarrow -2.5$   
 $\downarrow -4.5$   
 $\downarrow -4$   
 $\downarrow -6$

What is the change in Anya's weight over these 8 weeks?

(2 marks)

Show your calculations and/or workings out here:

Write your answer in this box:

6 lbs

**Question 22**

Anya swims three times a week. Her target is 3.5 km per week.

Calculate how many complete lengths of the 25 metre pool she will need to swim on each visit to achieve this?

(3 marks)

Show your calculations and/or workings out here:

$$\begin{aligned} 3.5 \text{ km} &= 3.5 \times 1000 \text{ m} \\ &= 3500 \text{ m} \end{aligned}$$

$$3500 \div 25 = 140 \text{ lengths per week}$$

$$140 \div 3 = 46.67 \text{ each visit}$$

so 47 complete lengths

Write your answer in this box:

47

**Question 23**

Express 0.6 as a percentage and a fraction in its simplest form.

(2 marks)

Show your calculations and/or workings out here:

$$0.6 \times 100 = 60 \%$$

$$0.6 = \frac{6}{10} = \frac{3}{5}$$

Write your answer in this box:

$$60\% \quad \frac{3}{5}$$

**Question 24**

Round 326.758 to 2 decimal places.

(1 mark)

Write your answer in this box:

$$326.76$$

**Question 25**

Sayed wants to keep tropical fish in a tank in his house. He sees this information. He decides to buy the starter kit and spread the cost over 12 months.

<p style="text-align: center;"><b>Tropical Fish Starter Kit</b></p> <p style="text-align: center;">Fish Tank Heater Pump Plants Gravel</p> <p style="text-align: center;"><b>£149.99</b></p> <p style="text-align: center;"><b>Spread the cost over 12 months with interest of 15% per year</b></p>
---

How much will Sayeed pay per month?

Show your calculations and/or workings out here:

$$\begin{aligned} 15\% \text{ interest so } 100\% + 15\% &= 115\% \\ &= 1.15 \\ 149.99 \times 1.15 &= \pounds 172.49 \text{ total} \\ 172.49 \div 12 &= \pounds 14.37 \text{ each month} \end{aligned}$$

Write your answer in this box:

$$\pounds 14.37$$

(4 marks)

### Question 26

Sayed will heat the water in the fish tank before putting the fish in. His fish tank is 86 cm x 54.5 cm x 43 cm. The heater will heat 10 litres of water every hour to the required temperature.

$$\begin{array}{c} \div 1000 \\ \curvearrowright \\ 1000 \text{ cm}^3 = 1 \text{ litre} \end{array}$$



How long will it take to heat all the water in his tank to the required temperature?  
(4 marks)

Show your calculations and/or workings out here:

$$\begin{aligned} \text{Volume} &= 43 \times 86 \times 54.5 = 201541 \text{ cm}^3 \\ &= 201.541 \text{ l} \end{aligned} \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} \div 1000$$

$$\begin{aligned} \text{will take } & 201.541 \div 10 \text{ hrs} \\ & = 20.1541 \text{ hrs} \end{aligned}$$

Write your answer in this box:

20.1541 hours

### Question 27

Sayed wants to buy the maximum number of fish that will fit in his tank. Each fish costs £1.89.

Total cost of maximum number of fish in £ = area  $\div$  75 x cost per fish



43 cm

86 cm

How much will it cost for Sayeed to buy the maximum number of fish that can fit in his tank?

(4 marks)

Show your calculations and/or workings out here:

$$\text{Area of base} = 86 \times 43 = 3698 \text{ cm}^2$$

$$\begin{aligned} \text{cost} &= 3698 \div 75 \times 1.89 \\ &= \underline{\underline{£93.19}} \end{aligned}$$

Write your answer in this box:

£ 93.19

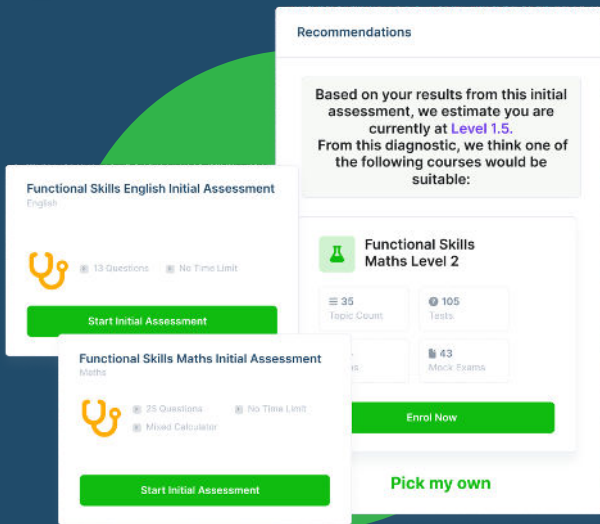
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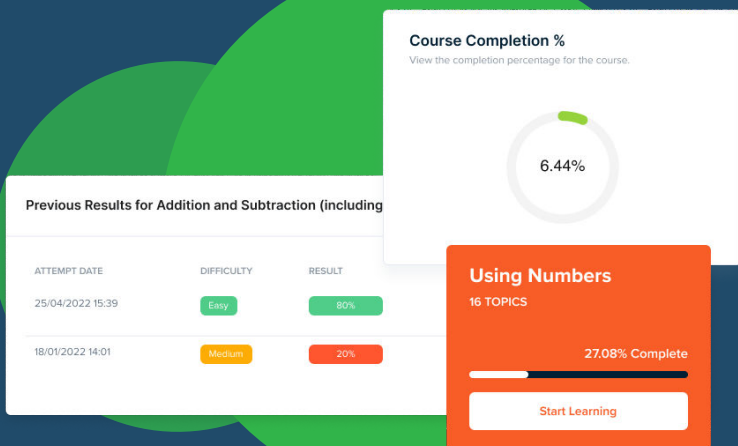
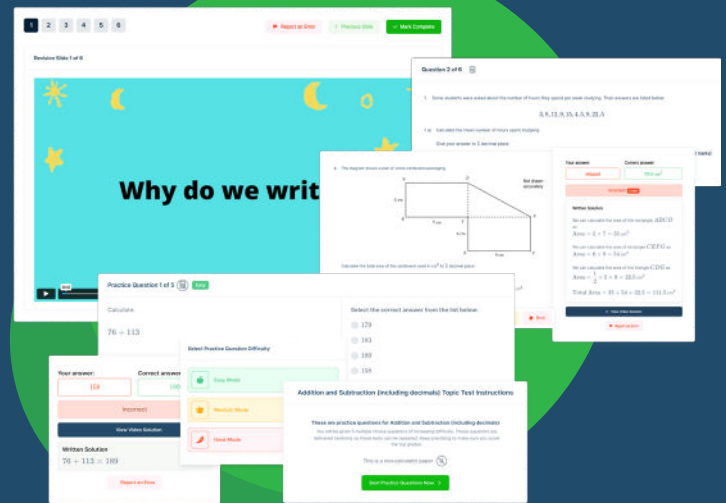


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