# Minute Maths Way2Lear







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#### How it works

Welcome to your Way2Learn course.

This course is designed to enable access to education for all – whether in-cell or in your establishment's education facility.



To complete this course, you will need to watch all of the episodes. Times for each episode are provided on the next page.

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You can request a copy of the episode transcript from your Distance Learning Coordinator or Learning and Skills Manager if you need to revisit any of the information.



If you have any difficulties in completing this course, please speak to a suitable peer mentor or member of staff for some help.



Once completed, return your answer book to the appropriate member of staff. After it has been received, it can take around 2-3 weeks to be assessed and issued a certificate.



You can ask a member of staff for a copy of our policies and practices for further details.





UWE Bristol

# **Episode Guide**

# **Minute Maths**

# Friday & Sunday

Content Guide - Episodes 1-9. Part 1 of 2	Friday/ Sunday
<b>Ep 1: Area -</b>	9:00am
Calculating the area of regular and irregular shapes.	3:00pm
<b>Ep 2: Perimeter -</b>	9:05am
Calculating the perimeter of regular and irregular shapes.	3:05pm
<b>Ep 3: Mean -</b>	9:07am
What the mean average is and how to calculate it.	3:07pm
<b>Ep 4: Median -</b>	9:10am
How to find the median of a set of numbers.	3:10pm
<b>Ep 5: Mode -</b>	9:13am
The meaning of the mode and how to find it.	3:13pm
<b>Ep 6: Range -</b>	9:16am
How to calculate the range of a group of numbers.	3:16pm
<b>Ep 7: Volume -</b>	9:19am
How to calculate the volume of 3D shapes.	3:19pm
<b>Ep 8: Fractions -</b>	9:22am
Working out fractions of money.	3:22pm
<b>Ep 9: More Fractions -</b>	9:25am
Continues with showing how to calculate fractions.	3:25pm

## Friday & Sunday

Content Guide - Episodes 10-15. Part 2 of 2	Friday/ Sunday
Ep 10: Percentages -	1:05am
How to multiply a number by a percentage.	7:05pm
<b>Ep 11: More Percentages -</b>	1:11am
Expressing an amount in a percentage of a number.	7:11pm
<b>Ep 12: Area of a Triangle -</b>	1:14am
How to calculate the area of a triangle.	7:14pm
<b>Ep 13-15: More Maths!</b> Our last three episodes allow you to take your Maths to a higher level. No answer book is required, just additional mental maths.	1:18am 7:22pm





#### **Learning Outcomes**



- 1. Learn how to measure area and perimeter for different shapes, improving measurement skills.
- 2. Understand mean, mode, median, and range to better analyse data sets.
- Use knowledge of volume and percentages to tackle everyday maths problems.
- 4. Calculate the area of triangles using simple formulas, enhancing understanding of shapes.

## **Starting Out**

Consider the learning outcomes above.

On a scale of 1 -10, how would you rate your knowledge of '**Maths'** before starting this course?

(Please tick the appropriate box)



## Low

# High

At the end of this course, you will have the opportunity to rate your knowledge once more.





# **Knowledge Check**

To pass this course you will need to correctly answer **<u>75%</u>** of the questions.

This equates to **65** correct answers out of the 87 marks available.

Show your working out where relevant in the spaces provided.

#### Episode 1: Area









# Space for working out

You are laying turf for your neighbour. It is a rectangular garden. The longest side is 36 metres, and the shortest side is 12 metres. Calculate how many square metres of turf you will need.



Space for working out







#### **Episode 2: Perimeter**

#### What is the perimeter of the shapes that follow?

Note: For some, you may need to calculate the missing values first.





You need to put a fence up for your neighbour's garden. It is a rectangular garden. The longest side is 36 metres, and the shortest side is 12 metres. How many metres is the perimeter of the garden?

	Space for working out	
Answer:		

#### **Episode 3: Mean**

Find the mean of these sets of numbers.

Remember, to find the mean you need to add all the numbers together and divide by the number of bits of data you have.

1.	6, 3, 1, 4, 6, 9, 6	Mean =	
2.	£21, £26, £19, £18, £21, £21	Mean =	
3.	7.3, 5.7, 9.5, 5.8, 9.5	Mean =	





Space for working out	

These are the scores for a darts player at the end of a match:

65, 89, 70, 42, 65, 98, 49, 27

What is the mean score for the player?

	Space for working out	
Answer:		

# Episode 4: Median

#### Find the median of these sets of numbers.

Remember, to find the median you need to place the numbers in order from smallest to largest and then find the number that is in the middle.

1.	6, 3, 1, 4, 6, 9, 6	Median =
2.	£21, £26, £19, £18, £21, £31	Median =
3.	7.3, 5.7, 9.5, 5.8, 9.5	Median =
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These are the scores for a darts player at the end of a match:

65, 89, 70, 42, 65, 98, 49, 27, 45

What is the median score for the player?

	Space for working out	
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	Episode 5: Mode	

Remember, the most common value is the mode. If, for example, car colours are being compared and this information is collected:

White 12; Black 14; Red 12; Blue 9; Green 11

Then the mode is **black** because more black cars were owned than any other colour.





What is the mode in each of these examples?

.



## A chart showing the number of children with each eye colour

#### 2. A chart showing children's favourite weekend activities









These are the scores for a darts player at the end of a match:

65, 89, 70, 42, 65, 98, 49, 27, 45

What is the mode score for the player?

	Space for working out	
Answer:		

**Episode 6: Range** 

Remember, the range is **the difference between the highest and lowest values of the thing being measured.** 

For example, if the greatest number of times a week a child reads to a parent is 7 and the least is 1, the range is 6 (7 - 1) (Highest – lowest)

Now find the range in these sets of data:



1. A chart showing the number of pets owned by a school class

2. A chart showing the number of cars owned in a household







Space for working out

Range =

These are the scores for a darts player at the end of a match:

65, 89, 70, 42, 65, 98, 49, 27, 45

Calculate the range of scores.

	Space for working out	
Answer:		





#### **Episode 7: Volume**

*Remember, to calculate the volume of a 3D shape, you need to multiply the three measurements (width, length, and height) together.* 



Calculate the volume of these boxes:





You want to fill a swimming pool with water. Your pool is 3 metres wide, 6 metres long and 2 metres deep. How much water will you need?

	Space for working out	
Answer		

## **Episode 8: Fractions and Money (1)**

Find these fractions by dividing by the denominator (the bottom number of the fraction):

1.	What is 1/3 of £18?	Answer =
2.	What is 1/3 of £33?	Answer =
3.	What is 1/4 of £42?	Answer =
4.	What is 1/10 of £42?	Answer =
5.	What is 1/2 of £42?	Answer =
6.	What is 1/2 of £1?	Answer =
7.	What is 1/10 of £1?	Answer =







Your food bill at a restaurant comes to £32. There are 4 people in your party. How much should each person pay?

Space for working out								
Answer:								

**Episode 9: Fractions of Money (2)** 

Find these fractions by dividing by the denominator (the bottom number of the fraction) and then multiplying by the numerator (the top number):

**1.** What is 2/3 of £18?

Answer = .....

**2.** What is 2/3 of £33?

Answer = .....







You are going to the cinema. You need to phone a taxi  $\frac{3}{4}$  of an hour before the film is due to start. How many minutes is this?







## **Episode 10: Percentages (1)**

Find these percentages by dividing the number by 100, then multiplying by the percentage or by using any other methods you know:

1.	25% of 60	Answer =						
2.	40% of 120	Answer =						
3.	10% of 80	Answer =						
4.	75% of 36	Answer =						
5.	12% of 100	Answer =						
6.	90% of 85	Answer =						
	Space for working out							





In a shop, the electrical items are advertised as having 35% off the normal price.

A TV costs £249 without a discount.

What is the price with the discount?

Space for working out
Answer:

# Episode 11: Percentage (2)

**Example:** Express 15 as a percentage of 60:

$$\frac{15}{60} \times 100 = 15 \div 60 \times 100 = 25\%$$

#### Find the percentage:

(Where necessary round to one decimal place).

**1.** 15 as a percentage of 120 = ..... 200 as a percentage of 2000 = .....

80 as a percentage of 200 = ..... 74 as a percentage of 200 = .....

112 as a percentage of 160 = ...... 36 as a percentage of 50 = .....

216 as a percentage of 360 = ..... 189 as a percentage of 420 = .....

2. In a school of 400 pupils, 250 are girls. What percentage are girls?

Answer: .....





3. In September it rained for 15 days. What percentage of the month did it rain?

Answer: .....

4. The captain of a football team scored 17 of the 85 goals they scored that season.

What percentage of their goals did he score?

Answer: .....

5. Alex has 3 dolls; 12 teddy bears and 5 soft rabbits.

What percentage of her toys are:

- a) teddy bears Answer: .....
- b) dolls

Answer: .....

Space for working out

A taxi company looks at how often their drivers are late. In one week, a driver has 48 fares but is late for 4 of them. Calculate how many times he has been late as a percentage.

(Give your answer to two decimal points)





Answer:

## Episode 12: Area of a Triangle

Remember, that the area of a triangle is ½ base x height.

#### Calculate the area of these triangles:









You have been asked to put some flags up for a school fete. The flags are triangular. Their base is 2 metres long and they have a height of 3 metres. What is the area of each flag?



*Episodes 13-15 do not form part of the assessment for Minute Maths. They do, however, provide you with an opportunity to explore more advanced areas of Maths including Cubing a number, calculating the area of a circle, and ratios.* 

End of Knowledge Check





# **Learning Evaluation**

Comment on the <u>three</u> most important things you have learned in this course

## **Distance Travelled**

Now that you have completed this course, on a scale of 1 -10, how would you rate your knowledge of '**Maths'**?

(Please tick the appropriate box)







## **Statement of Authenticity**

#### **Candidate Statement of Authenticity**

By returning this answer book you are confirming that the work contained is entirely your work and does not include any work completed by anyone other than yourself. You also confirm that you have completed the assignment/portfolio in accordance with the instructions given by your centre.

#### **Candidate Prison Number:**

.....

#### **Centre confirmation authenticity**

I confirm that the above-mentioned candidate, to the best of my knowledge, is the sole author of this completed answer book.

Staff Name: ..... Signed:....

Date: .....





# Stretch and Challenge (.....or just for fun!)

# **Minute Maths**

#### Across

- 6. Parts per hundred in maths.
- 7. A shape with three sides and three angles.
- 8. Difference between the highest and lowest numbers.
- 9. The space inside a shape.

#### Down

- 1. Space that a 3-dimensional shape occupies.
- 2. The middle value when numbers are in order.
- 3. The distance around a circle.
- 4. The most frequently occurring number in a set.
- 5. Average value of a set of numbers.
- 6. The total distance around a shape.







Stretch and Challenge (.....or just for fun!)

# Minute Maths

Μ	Ε	Α	S	U	R	Ε	Μ	Ε	Ν	Т	Ρ	Ε	Μ	MEAN
U	R	0	U	Μ	Μ	Α	Т	L	0	Ε	Μ	Α	S	PERIMETER
F	R	Ε	G	I	Ε	Ε	I	R	D	М	U	G	Ε	DIMENSIONS MEDIAN
0	Ε	0	Ε	Ι	Ι	Ε	Ι	0	Α	Ε	Μ	Т	Т	MODE
R	Ε	Ι	м	Ν	R	Ν	Μ	Т	Α	Α	Μ	0	Α	RANGE
Μ	Μ	Е	L	G	Ν	Α	Ι	R	т	Ν	т	Μ	Е	
U	0	R	Ν	Α	Ι	D	Е	м	D	Ι	Α	Е	R	Find
1	F	Δ	F	F	т	Δ	F	F	Δ	P	F	Δ	N	three
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Α	U	T	М	E	N	2	1	U	N	2	L	E	T	words
Α	F	Α	G	Ν	Е	Μ	U	L	0	V	Ε	Α	R	within
R	Α	Ν	G	Ε	L	Ν	Α	Α	Ε	Ε	G	Α	Μ	the
G	Α	Μ	U	G	R	Ε	т	Ε	Μ	Ι	R	Ε	Ρ	that are
L	С	Τ	R	С	U	м	F	Ε	R	Ε	N	С	Ε	not
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0	Α	Ρ	Ε	R	С	E	Ν	Т	Α	G	E	S	Ν	

# **Further Reading**



- 1. " The Math Book: Big Ideas Simply Explained" DK, 2020.
- 2. " Maths for Adults: Everyday Maths Made Simple" K.J. Crumlish, 2020.
- 3. "Functional Skills Maths Level 1 Study & Test Practice" CGP Books, 2019.
- 4. " Everyday Math for Grown-Ups: Getting to Grips with the Basics" Kjartan Poskitt, 2021





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# **Course Feedback – Minute Maths**



**General Feedback** 

