

# Core Maths Bridging Tasks

Name: \_\_\_\_\_

Welcome to AQA Level 3 Mathematical Studies (Core Maths).

You will need to have a Grade 4 in Maths (either tier) to get on to the course.

Core Maths builds on your GCSE knowledge while building in Critical Analysis, A Level Statistics and Fermi Estimation. This course complements Psychology, Geography, Construction and Business Studies as there is some cross over of topics. This course is an AS Course and is worth half of an A Level course in terms of UCAS points.

This booklet gives details of tasks I want you to do in preparation for the beginning of the course in September. When we return in September you will be expected to bring this with you (if you have not sent me the completed booklet beforehand.)

Work through the tasks at your own pace and in whichever order you wish. Any issues with any of the work please contact me via email [arasool@thomastelfordutc.com](mailto:arasool@thomastelfordutc.com) . If you need a login for Mymaths as you are joining Thomas Telford UTC in September, then let me know I will add you to the group.

We study AQA Level 3 Mathematical Studies Option 2B. It is two 1.5-hour long papers both of which are calculator so don't throw yours away and feel free to use it for anything in this paper.

Please show working out in any non – worded / typed questions so that I can follow your train of thought and see which methods you are using which will help us in September.

## **Task 1**

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*Critical Path Analysis plays a good part in Paper 2B and is heavily linked with Construction work that we offer here at TT UTC. Research and write down what is critical path analysis and what it can be used for.*

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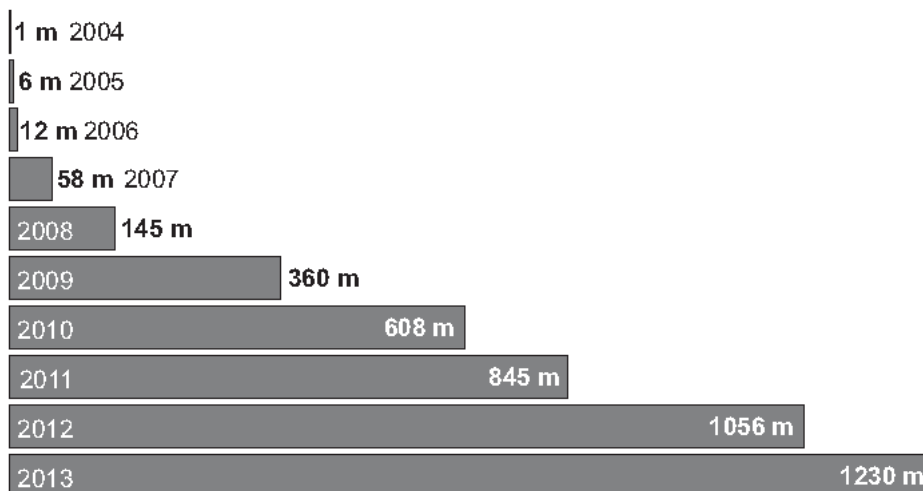
## **Task 2**

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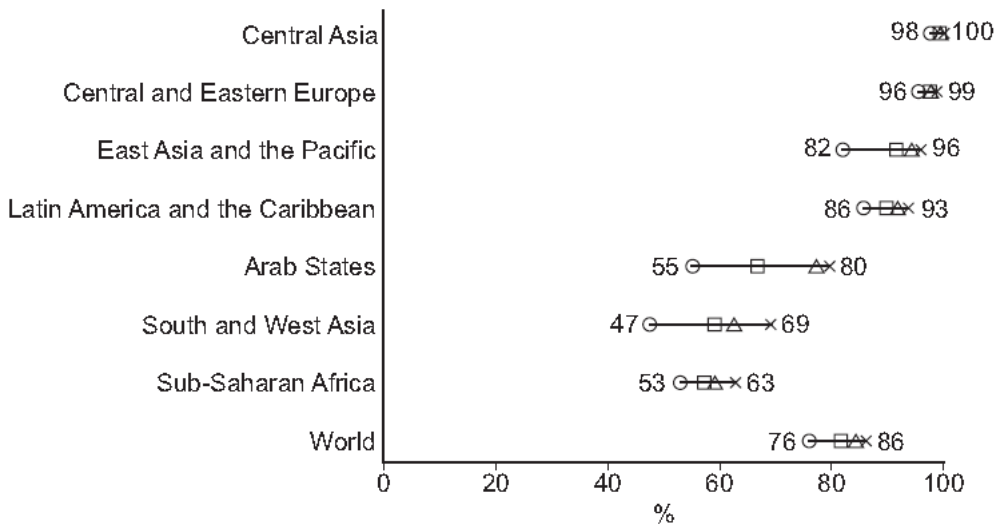
*A big part of Paper 2 is Critical Analysis. This builds on your skills of working with percentages and proportion from GCSE and your ability to criticise graphs and representations of data. Look at the two graphs below. Give one criticism and one improvement that could be made to each graph.*

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**Facebook: 10 years of social networking, in numbers**



**Figure 1** Adult Literacy Rate, 1990–2015



**Key:** ○ 1990 □ 2000 △ 2012 × 2015 projected

**Criticism**

*Graph 1*

*Graph 2*

**Improvement**

*Graph 1*

*Graph 2*

### **Task 3**

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*Log on to MyMaths. Work through the online lessons for the topics listed and then complete the questions set for you. You need to record your scores below.*

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Mean of grouped data	%
Percentile and deciles	%
Averages	%
Listing Outcomes	%
Making tree diagrams	%
Quartiles and Interpolation	%
Representation Introduction	%
Histograms	%
Box and Whisker Plots	%
Cumulative Frequency 1	%
Cumulative Frequency 2	%

#### Task 4

Complete the exam style questions below showing all working out.

1)

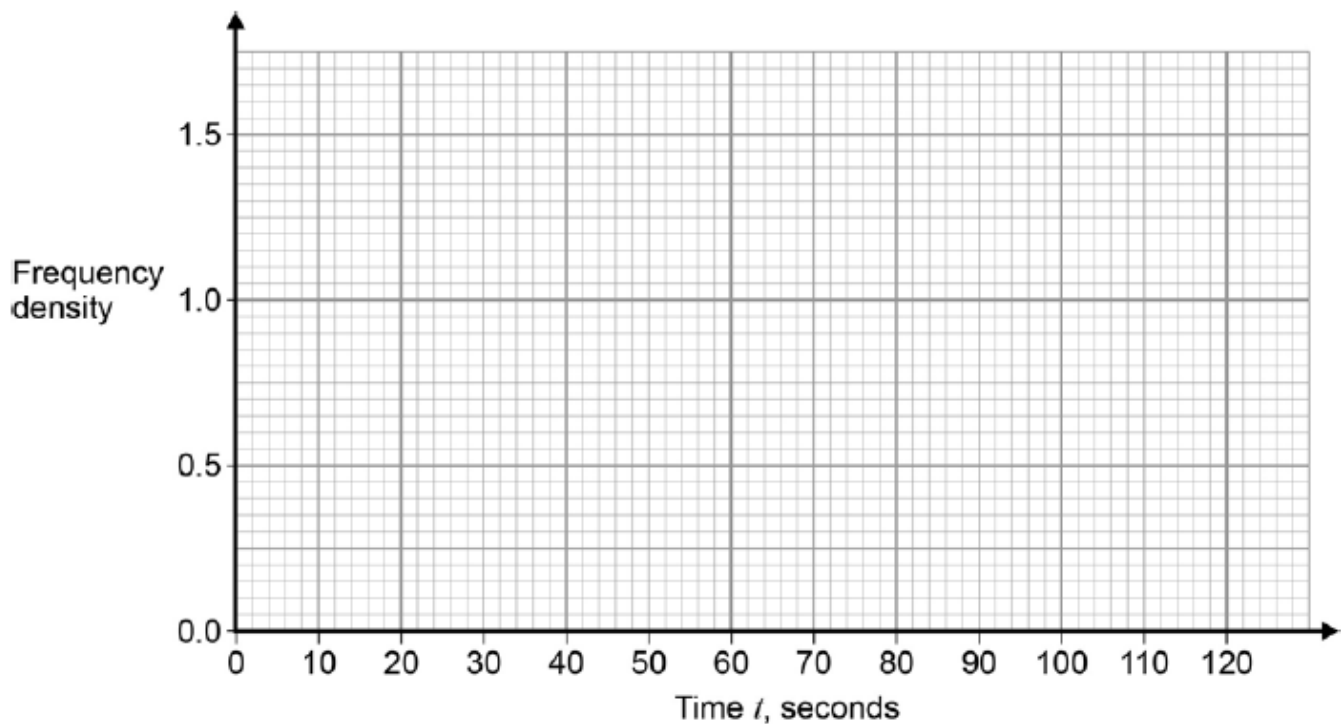
A money advice call centre has a target of answering all calls in under 1.5 minutes.

The table shows the waiting time, in seconds, for calls to be answered for a sample of 100 calls.

Time $t$ , seconds	Frequency
$10 \leq t < 50$	12
$50 \leq t < 80$	39
$80 \leq t < 100$	28
$100 \leq t < 120$	21

(a) Draw a histogram to represent this information.

[2 marks]



2)

People in the UK are advised to take more exercise.

Estimate how much exercise you take per year.

State any assumptions you make.

You **must** show working to justify your answer.

[3 marks]

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3a)

A maths exam has two papers.

This table shows the percentage marks for 19 students for Paper 2 of the exam.

Student	A	B	C	D	E	F	G	H	I	J
Paper 2 mark	65	80	65	84	70	82	71	75	51	70

Student	K	L	M	N	O	P	Q	R	S
Paper 2 mark	50	81	90	57	76	99	67	81	92

(a) Circle the words that describe this type of data.

[2 marks]

discrete

qualitative

continuous

quantitative

3b)

- (b) The table below shows information about the percentage marks for the same 19 students on Paper 1

	Lowest value	Lower quartile	Median	Upper quartile	Highest value
Paper 1	45	70	73	83	90
Paper 2					

[4 marks]

Complete this table to show the information for Paper 2

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3c)

- (c) Draw box plots to represent the data for Paper 1 and Paper 2

[3 marks]

