

Centre No.						Paper Reference	Surname	Initial(s)
Candidate No.						<b>FM201/01</b>	Signature	

Paper Reference(s)

**FM201/01**

# Edexcel Functional Skills Mathematics

Level 2

Sample Assessment Material V2

Time: 1 hour 15 minutes



Examiner's use only

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Team Leader's use only

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**Materials required for examination**

Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

**Items included with question papers**

Nil

**Instructions to Candidates**

In the boxes above, write your centre number, candidate number, your surname, initials and signature. Check that you have the correct question paper.

Answer ALL the questions. Write your answers in the spaces provided in this question paper.

If you need more space to complete your answer to any question, use additional answer sheets.

Some questions must be answered with a cross in a box (☒).

If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

**Information for Candidates**

The marks for individual questions and the parts of questions are shown in round brackets: e.g. (2).

In this question paper there are 5 questions in Task 1, 5 questions in Task 2 and 4 questions in Task 3.

The total mark for this paper is 60.

There are 20 pages in this question paper. Any blank pages are indicated.

**Calculators may be used.**

**Advice to Candidates**

Show all stages in any calculations.

Work steadily through the paper. Do not spend too long on one question.

If you cannot answer a question, leave it and attempt the next one.

Return at the end to those you have left out.

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**TASK 1: VILLAGE SHOP**

**Answer all five questions in this task.**

**Write your answers in the spaces provided**

**You must write down all stages in your working**

You live in a village.  
There are no shops in the village.  
You are considering whether to open a small village shop.

1. The bank manager gives you some advice.  
You will need to budget for some items.

Equipment for the shop	£12 000	to	£14 000
Computer equipment	£5000	to	£7000

- (a) What is the smallest **total** amount of money needed?

£ .....  
**(1)**

- (b) What is the largest **total** amount of money needed?

£ .....  
**(1)**

You will also need to plan some decoration and shop fitting.  
Decoration and fitting costs £8K

- (c) What does K stand for?

£ .....  
**(1)**

The bank manager is willing to loan you 80% of the cost of setting up the business, to a maximum of £50 000

- (d) What maximum amount of money might **you** have to find?

£ .....  
**(2)**

**(Total 5 marks)**

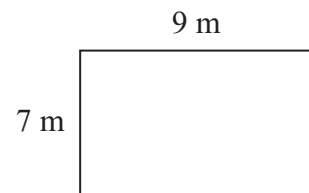
T1Q1



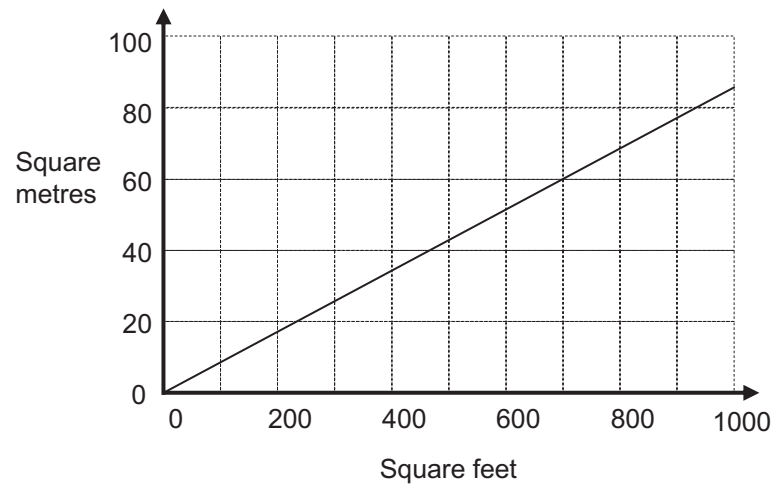
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2. The bank manager says the shop should be more than 500 square feet in area.

You measure the floor plan to be 7 m by 9 m.



The graph can be used to convert  $m^2$  to square feet.



Is the floor plan more than 500 square feet in area?

.....

Give reasons and calculations for your answer.

T1Q2

(Total 3 marks)



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3. You need to estimate your possible income from the shop.  
Assume two-thirds of the people who live in the village will visit the shop at least once a week.

There are 1677 people in the village.

- (a) What is two-thirds of 1677?

.....  
(1)

It is estimated the average amount each visitor will spend in the shop is £3.75  
The weekly income can be worked out using £3.75 and two-thirds of 1677.

- (b) Work out an estimate for the weekly income, if two-thirds of the people in the village visit the shop once a week.

£ .....  
(1)

- (c) Round your answer to the nearest £100

£ .....  
(1)

(Total 3 marks)

T1Q3



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4. Profits can be estimated using this formula:

$$P = \frac{T}{6}$$

P stands for the profit

T stands for the amount of money people spend

You assume that in the first year the amount of money spent in the shop is £210 000

(a) Use the formula to work out how much profit that will give you.

£ .....  
**(1)**

In the second year you would like the profit to be at least £40 000

(b) Use the formula to work out how much money would have to be spent in the shop.

£ .....  
**(2)**

**(Total 3 marks)**

T1Q4

5

Turn over



5. You send a questionnaire to all the people in the village.  
One statement is “A community shop should be opened in the village”.

The table below shows some information about the responses.

Table of responses	
strongly agree	683
agree	471
disagree	139
strongly disagree	45

There are 1677 people in the village.

- (a) How many people do **not** give their opinion?

.....  
(1)

These responses are changed into points.

for every **strongly agree** give 2 points  
for every **agree** give 1 point  
for every **disagree** give -1 point  
for every **strongly disagree** give -2 points

- (b) What is the total number of points for this table of responses?

.....  
(2)

- (c) Show that the mean number of points is about 1.2

.....  
(2)

Another statement is “I would visit the shop at least once a week”.  
The mean number of points for the responses to this question is 0.9

- (d) What do these means tell you about people’s opinions?  
You should refer to **both** statements in your answer.

(1) T1Q5

(Total 6 marks)



**TASK 2: BATHROOM**

**Answer all five questions in this task.**

**Write your answers in the spaces provided**

**You must write down all stages in your working**

You want to turn a small downstairs room in your house into a bathroom.  
Your budget for the work is £2000

**1.**

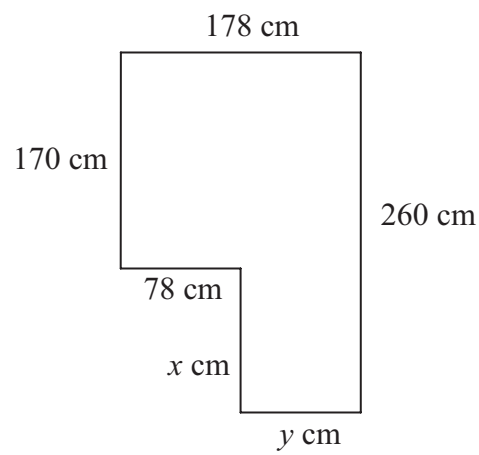


Diagram **NOT** accurately drawn

(a) What is the missing length marked  $x$  cm?

.....  
**(1)**

(b) What is the missing length marked  $y$  cm?

.....  
**(1)**

(c) What is the total area of the floor plan?

.....  $\text{cm}^2$   
**(2)**

**(Total 4 marks)**

**T2Q1**



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2. This is a list of some items you need to buy for the bathroom.

Sink unit	£178
Taps	£45
Floor tiles	£120
Other items	£57

(a) How much of your £2000 budget is left?

£ .....  
(2)

(b) What fraction of the £2000 is left?  
Write your answer in its simplest form.

.....  
(2)

(Total 4 marks)

T2Q2





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3.

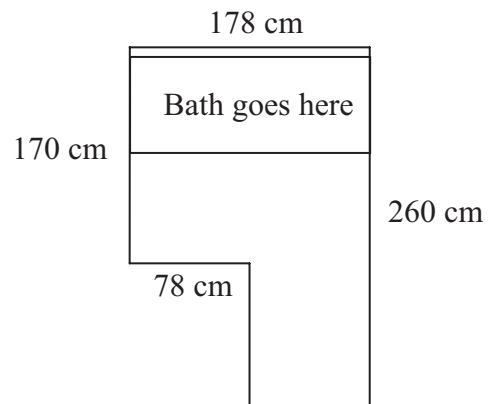


Diagram **NOT**  
accurately drawn

You decide to spend about a fifth of your £2000 budget on the bath.  
The bath has to fit in the available space in the bathroom.

The details of five baths are shown below.

Bath	Dimensions	Price
A	1700 mm by 800 mm	£199
B	1800 mm by 900 mm	£299
C	1800 mm by 900 mm	£349
D	1695 mm by 745 mm	£365
E	1800 mm by 970 mm	£400

Which bath will you choose?

Choose an answer, A, B, C, D or E and put a cross in the box (☒)

A ☒

B ☒

C ☒

D ☒

E ☒

T2Q3

(Total 1 marks)

9

Turn over



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4. The wall tile is a rectangle of dimensions 30 cm by 20 cm.  
The floor tile is a rectangle,  $1\frac{1}{2}$  times the size of the wall tile.

(a) Write down the dimensions of the floor tile.

.....  
(1)

The perimeter of the room is about 9 m.  
The width of each wall tile is 20 cm.

(b) How many 20 cm are there in 9 m?

.....  
(2)

You estimate you will need 200 wall tiles.  
You will order 10% more to be sure you have enough.  
The wall tiles are in packs of 25 tiles.

(c) How many packs will you order?

.....  
(3)

The cost of each pack of tiles is £44.50

(d) How much will it cost you for all the packs of tiles?

£ .....  
(2)

(Total 8 marks)

T2Q4



5. You get a quotation from a builder.

Complete this quotation.

4 days work at £230 per day:    £ .....

VAT at  $17\frac{1}{2}\%$ :    £ .....

Total cost:    .....£

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T2Q5

(Total 3 marks)



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**TASK 3: PYGMY ELEPHANTS**

**Answer all five questions in this task.**

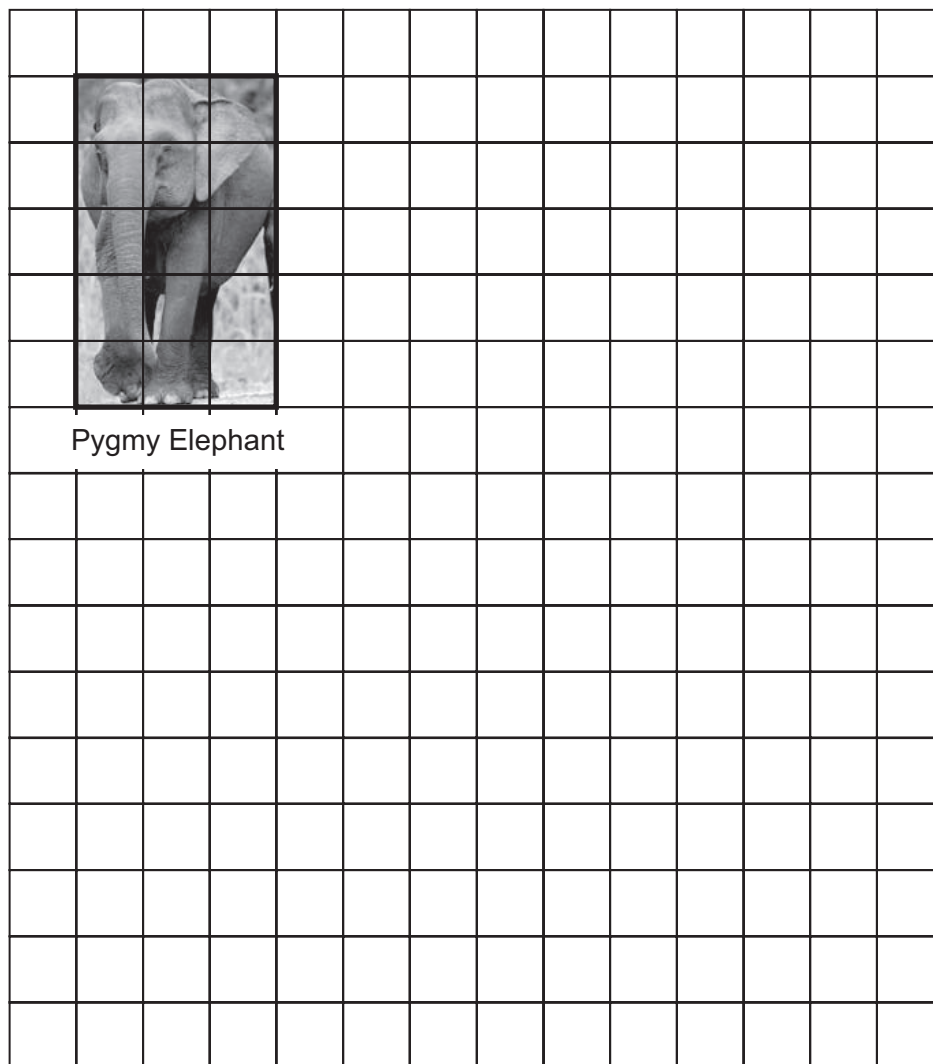
**Write your answers in the spaces provided**

**You must write down all stages in your working**

1. The elephants in Borneo are called Pygmy elephants.  
Asian elephants are **one fifth bigger**.

The photograph of this Pygmy elephant has a border  
which is 5 cm by 3 cm.

Draw a border of a photograph an Asian elephant to a scale **one fifth bigger**.  
You do not need to draw the elephant.



T3Q1

(Total 2 marks)



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2. An elephant spends 16 out of every 24 hours each day eating.

- (a) Write 16 out of 24 as a fraction.  
Give your answer in its simplest form.

.....  
(2)

An elephant spends half of the remaining time each day sleeping.

- (b) How long, in hours, does an elephant sleep each day?

..... hours  
(2)

T3Q2

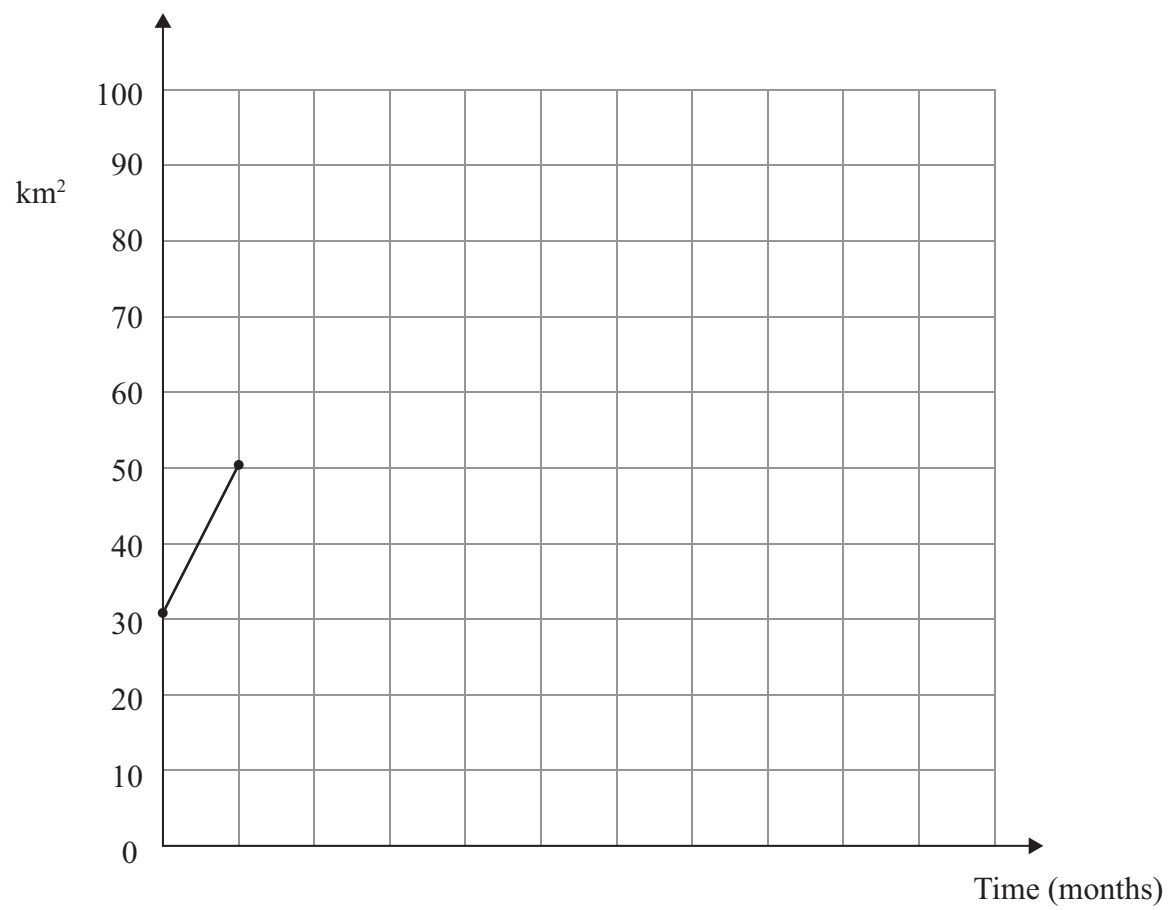
(Total 4 marks)



3. A Pygmy elephant was tracked for 11 months.  
The table gives the area travelled by the elephant each month.

Month	Aug	Sep	Oct	Nov	Dec	Jan
Area (km <sup>2</sup> )	30.76	50.22	90.73	40.70	50.08	50.22

Month	Feb	Mar	Apr	May	Jun
Area (km <sup>2</sup> )	40.56	20.44	40.34	40.81	27.97



- (a) Complete the graph to show this information. (3)

- (b) In which month did this elephant travel the **greatest** area?

.....  
(1)

- (c) In which month did this elephant travel the **least** area?

.....  
(1)



The **average** area travelled each month is **40.7** km<sup>2</sup>.

(d) This average is not the mean.

Explain why.

(2)

(e) Which average is being used?

Explain your answer.

(2)

(Total 9 marks)

T3Q3

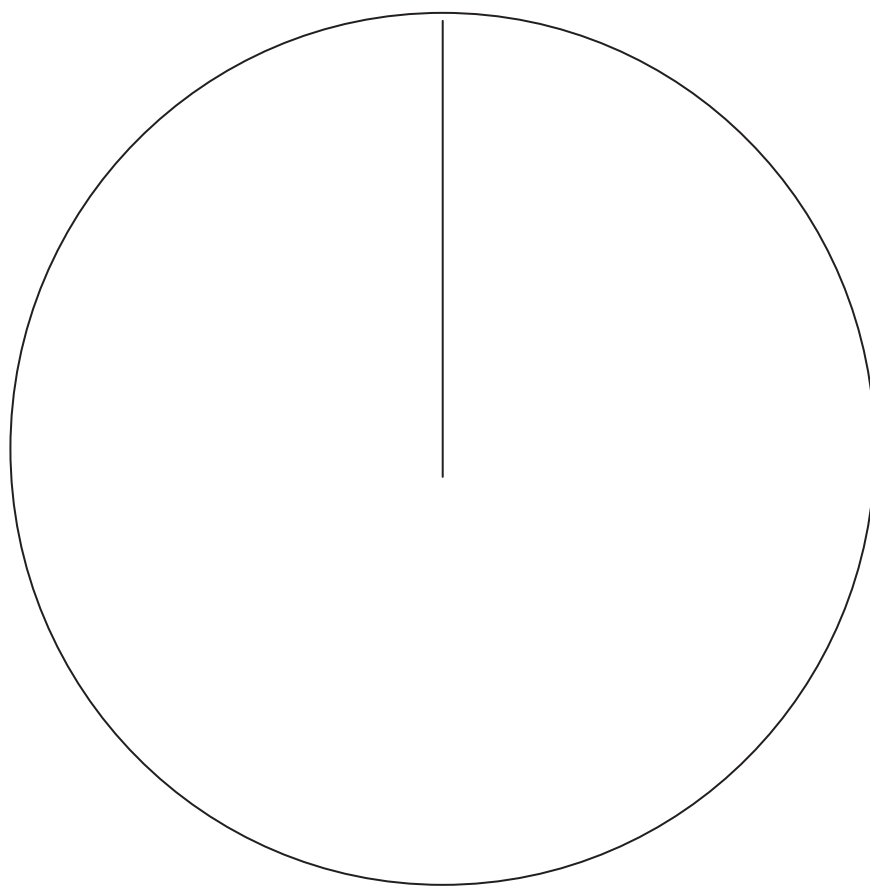


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4. The elephant spent time in different types of forest.  
The table below shows the percentage of time spent in different types of forest.

Types of forest	Dry land	Rocky	Other
Percentage time	53%	25%	22%

- (a) Complete the pie chart to show this information.



(3)



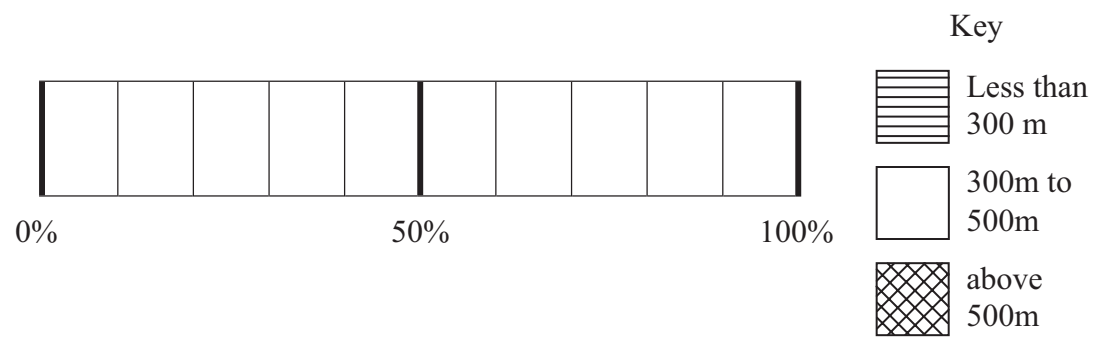


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The elephant also spent time at different altitudes.  
The table shows the percentage of time spent at different altitudes.

Altitude	Less than 300 m	300 m to 500 m	above 500 m
Percentage time	48%	42%	10%

(b) Complete the percentage bar chart to show this information.



(2)

T3Q4

(Total 5 marks)

**TOTAL FOR PAPER: 60 MARKS**

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