



# Functional Skills Certificate

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Functional Mathematics 9305  
Pilot Specification  
2008

Level 1

# **SPECIMEN ASSESSMENT MATERIALS**

Further copies of this booklet are available from:

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Surname						Other Names					
Centre Number						Candidate Number					
Candidate Signature											

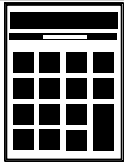
For Examiner's use
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Functional Skills Certificate  
Specimen Paper



**FUNCTIONAL MATHEMATICS**  
**Functionality Test**  
**Calculator allowed**

Curriculum Pathways Project Trial 2007

<p><b>For this paper you must have:</b></p> <ul style="list-style-type: none"> <li>• a calculator</li> <li>• mathematical instruments</li> <li>• a clean copy of the data booklet</li> </ul>	
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For Examiner's Use	
Number	Mark
1	
2	
3	
TOTAL	
Examiner's Initials	

Time allowed: 45 minutes

**Instructions**

- Use blue or black ink or ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Answer the questions in the spaces provided.
- Use a calculator where appropriate.
- Do all rough work in this book.
- If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.14 unless another value is given in the question.

**Information**

- The maximum mark for this paper is 25.
- The marks for questions are shown in brackets.
- You may ask for more answer paper, graph paper and tracing paper. This must be tagged securely to this answer book.

**Advice**

- In all calculations, show clearly how you work out your answer.

Answer **all** questions in the spaces provided.

## 1 Holiday Jobs

You will need to use the Data sheet for **Holiday Jobs** to answer this question.

- (a) Ed is 13 years old.

What is the maximum number of hours that he can work in one week?

Answer ..... hours (1 mark)

- (b) Zachary is 15 years old.  
He only works on Saturday and Sunday.

What is the maximum number of hours that he can work in one week?

.....

Answer ..... hours (2 marks)

- (c) Carlos is 16 years old.  
He is paid the minimum wage.

What is the maximum amount he can earn in one week?

.....

Answer £ ..... (2 marks)

- (d) Maria is 15 years old.  
The table shows the hours she works from Monday to Thursday.  
She does **not** work on Saturday or Sunday.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Hours	7	8	8	5	

What is the greatest number of hours she can work on Friday?

.....

.....

Answer ..... hours (2 marks)

- (d) Jenny is 17 years old.  
She does **not** work on Friday or Saturday.  
Her job pays the minimum wage.

What is the most she can earn in a week?

.....  
.....  
.....

Answer £ ..... (3 marks)

**Turn over for the next question**

2 **Weather**

You will need to use the Data sheet for **Weather** to answer this question.

(a) On how many days was rain expected in Leeds?

Answer ..... (1 mark)

(b) Compare the wind speeds forecast for Leeds and Paris on Saturday.

.....  
.....

(1 mark)

(c) How many more sunny days are forecast in Paris than in Leeds?

Answer ..... (1 mark)

(d) To go ballooning                  The wind speed must be less than 10 mph  
   There must be **no** cloud  
   Visibility must be good

Pierre wants to go ballooning in Paris on Tuesday.

According to the forecast, this will **not** be possible.

Explain why.

.....  
.....

(1 mark)

(d) Which day shows the highest day time temperature in Leeds?

Answer ..... (1 mark)



(e) Calculate the mean maximum daytime temperature in Leeds for these five days.

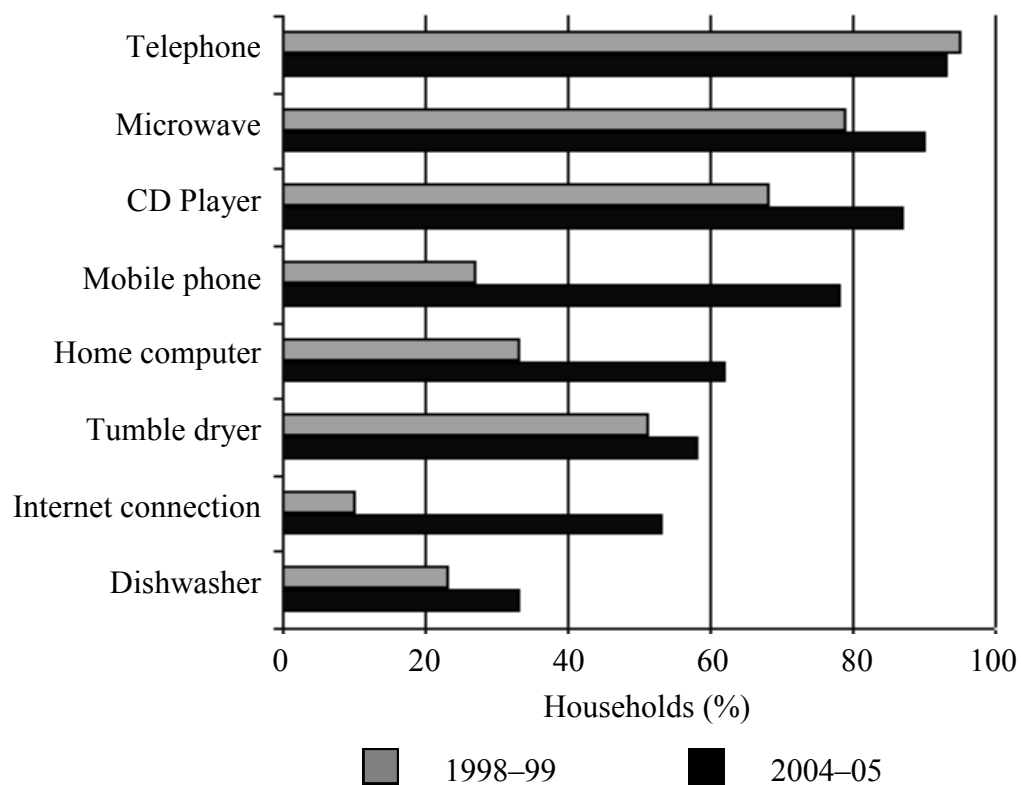
.....  
.....  
.....

Answer ..... °C (3 marks)

**Turn over for the next question**

### 3 Household items

The bar chart compares the percentage of households with different items in 1998–99 and in 2004–05.



(a) In 1998-99 which was the least common household item?

Answer ..... (1 mark)

(b) What percentage of households had a tumble dryer in 2004–05?

Answer ..... % (1 mark)

(c) Identify each of these items from the descriptions.

(i) The percentage of households with this item in 1998–99 was nearly 80%.

Answer ..... (1 mark)

(ii) The percentage of households with this item approximately doubled between 1998–99 and 2004–05.

Answer ..... (1 mark)

(iii) The percentage of households with this item increased by approximately five times between 1998–99 and 2004–05.

Answer ..... (1 mark)

(d) (i) Describe how the percentage of households with mobile phones changed between 1998–99 and 2004–05.

.....  
.....

(1 mark)

(ii) Daniel says that the percentage of households with mobile phones will double over the next five years.

Explain why this is **not** possible.

.....  
.....

(1 mark)

**END OF QUESTIONS**

**There are no questions printed on this page**

Surname											Other Names											
Centre Number												Candidate Number										
Candidate Signature																						

For Examiner's use
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General Certificate of Secondary Education  
Specimen Paper 2007



**FUNCTIONAL MATHEMATICS**  
**Paper 1 Competency Test Level 1**  
**Non-Calculator**

Curriculum Pathways Project Trial 2007

<p><b>For this paper:</b></p> <ul style="list-style-type: none"> <li>You must <b>not</b> use a calculator.</li> </ul>	
---	--

For Examiner's Use	
Pages	Mark
2 – 3	
4 – 5	
6 – 7	
TOTAL	
Examiner's Initials	

Time allowed: 30 minutes

**Instructions**

- Use blue or black ink or ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Answer the questions in the spaces provided.
- Do all rough work in this book.

**Information**

- The maximum mark for this paper is 20.
- The marks for questions are shown in brackets.

Answer **all** questions in the spaces provided.

- 1 Write four thousand one hundred and five in figures.

Answer ..... (1 mark)

- 2 Which of these temperatures is the coldest?

5°C      -13°C      17°C      -1°C

Answer ..... (1 mark)

- 3 In a school there are 327 boys and 284 girls.

How many pupils are there in the school?

.....  
 .....  
 .....

Answer ..... (1 mark)

- 4 Write  $\frac{3}{4}$  as a percentage.

.....

Answer ..... % (1 mark)

- 5 Ben has 72 pence.

What is the smallest number of coins that he could have?

.....

Answer ..... (1 mark)

- 6 A parcel weighs 0.45 kilograms.

What is its weight in grams?

.....

Answer ..... grams (1 mark)

- 7 Luke is paid £4.50 per hour.  
He works for 4 hours.

How much is he paid?

.....

Answer £ ..... (1 mark)

- 8 A train carriage has 56 seats.

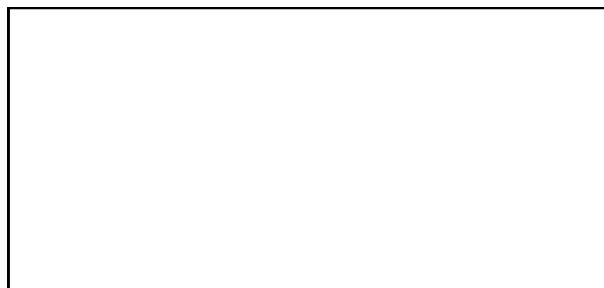
How many seats are there in 10 of these train carriages?

.....

.....

Answer ..... (1 mark)

- 9 The diagram shows a rectangle.

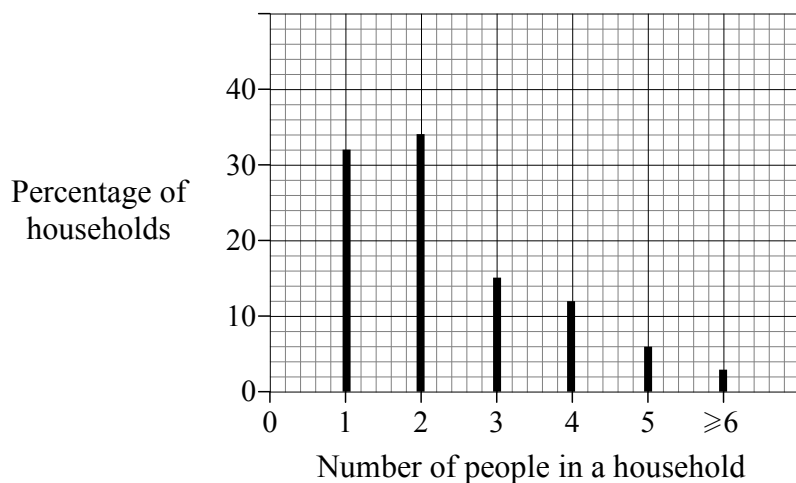


Draw the lines of symmetry on the rectangle.

(1 mark)

**Turn over for the next question**

**10** The graph gives information about the sizes of households in Great Britain in 2000.



Write down the percentage of households with 4 people.

Answer ..... % (1 mark)

**11** Kelly buys a book which costs £2.45 and a pen which costs £1.15

How much change should she receive from a £5 note?

.....

.....

.....

Answer £ ..... (1 mark)

**12** Zach leaves his house for school at 8.10 am.

He arrives at school at 8.45 am.

How long does his journey take?

Give your answer in minutes.

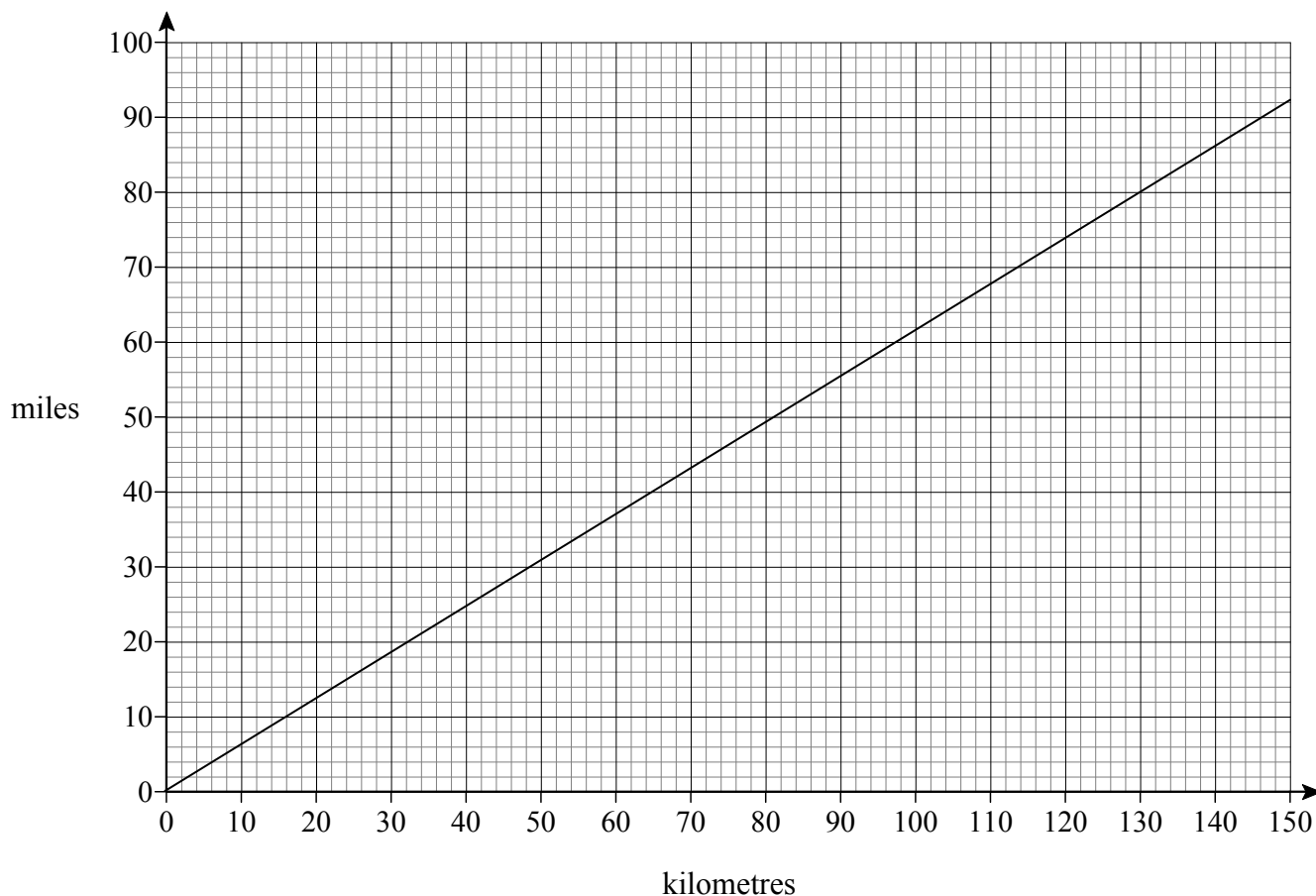
.....

.....

Answer ..... minutes (1 mark)



13 Use the conversion graph to work out the number of kilometres that equal 80 miles.



Answer ..... km (1 mark)

14 Cakes are packed into boxes.  
Each box holds six cakes.

How many boxes are needed for 144 cakes?

.....  
.....

Answer ..... (1 mark)

**15** A tennis court can be hired for £5 for one hour.  
Tennis racquets can also be hired for an extra £1.50 each.  
Jamie hires the court for one hour.  
He also hires four tennis racquets.

How much does he pay altogether?

.....  
.....  
.....

Answer £ ..... (1 mark)

**16** The probability that it will rain tomorrow is 0.7

What is the probability that it will **not** rain tomorrow?

.....

Answer ..... (1 mark)

**17** A recipe for 8 people includes

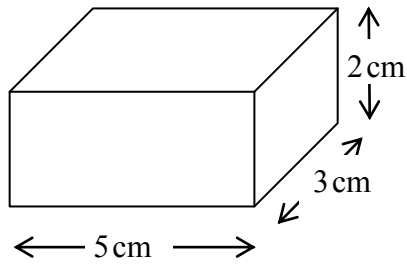
- 1 kg of potatoes
- 25 g of plain flour
- 400 g of cabbage
- 240 g of mince.

How many grams of cabbage are needed for 16 people?

.....  
.....

Answer ..... g (1 mark)

- 18 The diagram shows a box in the shape of a cuboid.



Not drawn accurately

Work out its volume.

.....

Answer .....  $\text{cm}^3$  (1 mark)

- 19 Ali and Nina share a bag of marbles in the ratio 1 : 3  
Ali has 12 marbles.

How many marbles does Nina have?

.....

Answer ..... (1 mark)

- 20 Elaine is a typist.  
She records the number of letters she types each day for one week.

12      8                      7                      11                      7

Calculate the mean.

.....

.....

.....

Answer ..... (1 mark)

**END OF QUESTIONS**

**There are no questions printed on this page**



**Functional Skills Certificate**

**Functional Mathematics 9305**

**Level 1**

**Mark Scheme**

*Specimen Paper*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available to download from the AQA Website: [www.aqa.org.uk](http://www.aqa.org.uk)

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## Glossary for Mark Schemes

GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Mathematics papers, marks are awarded under various categories.

- M** Method marks are awarded for a correct method which could lead to a correct answer.
- A** Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
- B** Marks awarded independent of method.
- D** Marks awarded independent of method for correct use of data sheet.
- M dep** A method mark dependent on a previous method mark being awarded.
- B dep** A mark that can only be awarded if a previous independent mark has been awarded.
- ft** Follow through marks. Marks awarded following a mistake in an earlier step.
- SC** Special case. Marks awarded within the scheme for a common misinterpretation which has some mathematical worth.
- oe** Or equivalent. Accept answers that are equivalent.  
eg, accept 0.5 as well as  $\frac{1}{2}$

## Functionality Section A

Q	Answer	Mark	Comments
1(a)	25	B1	
1(b)	$8 + 2$	M1	
	10	A1	
1(c)	$35 \times 3$	M1	
	105	A1	
1(d)	$35 - (7 + 8 + 8 + 5)$ or $35 - 28$	M1	
	7	A1	
1(e)(i)	(£) 3 seen	D1	
1(e)(ii)	Their $(4 + 8 + 2) \times$ Their (£) 3	M1	
	(£) 102	A1	
2(a)	2	B1	
2(b)	Faster in Leeds or Slower in Paris	B1	
2(c)	3	B1	
2(d)	Moderate visibility	D1	
2(e)	Saturday	D1	
2(f)	$4 + 2 + 5 + 4 + 3$ or 18	M1	
	Their $18 \div 5$	M1dep	
	3.6	A1	



<b>3(a)</b>	Internet connection	D1	
<b>3(b)</b>	58 or 59%	D1	
<b>3(c)(i)</b>	Microwave	D1	
<b>3(c)(ii)</b>	Home computer	D1	
<b>3(c)(iii)</b>	Internet connection	D1	
<b>3(d)(i)</b>	Increases	D1	
<b>3(d)(ii)</b>	Cannot double when more than 50% already	D1	

## Competency Section B

Q	Answer	Mark	Comments
<b>1</b>	4105	B1	
<b>2</b>	-13	B1	
<b>3</b>	611	B1	
<b>4</b>	75	B1	
<b>5</b>	3	B1	
<b>6</b>	450	B1	
<b>7</b>	18	B1	
<b>8</b>	560	B1	
<b>9</b>	2 lines of symmetry drawn-one vertical one horizontal	B1	±5 mm
<b>10</b>	12	B1	
<b>11</b>	.	B1	
<b>12</b>	35	B1	
<b>13</b>	130	B1	
<b>14</b>	24	B1	
<b>15</b>	£11	B1	

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<b>Q</b>	<b>Answer</b>	<b>Mark</b>	<b>Comments</b>
<b>16</b>	0.3	B1	
<b>17</b>	800	B1	
<b>18</b>	30	B1	
<b>19</b>	36	B1	
<b>20</b>	9	B1	

Functional Skills Certificate  
Specimen Paper



**FUNCTIONAL MATHEMATICS**  
**Functionality Test**  
**Data Book (Examination)**

Curriculum Pathways Project Trial 2007

**Instructions**

- This copy of the Data Book is for use in the examination.  
It should **not** be given to the candidates in advance.

## Data Sheet for Holiday Jobs

These tables show the regulations for summer holiday jobs for people aged 13 to 18 years.





### Work regulations for people aged 13 to 18 years

<b>Holiday Jobs: hours of work</b>	
Age under 13	<ul style="list-style-type: none"> <li>• Legally not allowed to work</li> </ul>
Age 13 to 14	<ul style="list-style-type: none"> <li>• A maximum of 25 hours per week</li> <li>• Up to 5 hours a day from Monday to Saturday</li> <li>• Up to 2 hours a day on Sunday</li> </ul>
Age 15 and over	<ul style="list-style-type: none"> <li>• A maximum of 35 hours per week</li> <li>• Up to 8 hours a day from Monday to Saturday</li> <li>• Up to 2 hours a day on Sunday</li> </ul>






<b>Holiday Jobs: rates of pay</b>	
Age under 16	<ul style="list-style-type: none"> <li>• Pay not covered by minimum wage</li> </ul>
Age 16 to 17	<ul style="list-style-type: none"> <li>• Minimum wage £3.00 per hour</li> </ul>
Age 18 and over	<ul style="list-style-type: none"> <li>• Minimum wage £4.25 per hour</li> </ul>

## Data Sheet for Weather






These tables show the weather forecast for 5 days in Leeds and Paris.

<b>Key:</b>	 Sunny	 Sunny intervals	 Cloudy	 Rain
-------------	---	---	---	--

### Leeds

Day	Summary	Temperature		Wind speed (mph)	Visibility
		Max Day °C	Min Night °C		
Friday		4	1	7	Good
Saturday		2	-2	8	Poor
Sunday		5	-1	8	Poor
Monday		4	-1	10	Poor
Tuesday		3	0	5	Poor

### Paris

Day	Summary	Temperature		Wind speed (mph)	Visibility
		Max Day °C	Min Night °C		
Friday		0	-6	8	Moderate
Saturday		3	1	6	Moderate
Sunday		7	-1	11	Good
Monday		6	-1	9	Good
Tuesday		6	-4	8	Moderate

**There is no source material printed on this page**