version 1.0

ASSESSMENT and QUALIFICATIONS ALLIANCE

## Functional Skills Certificate

# Functional Mathematics 9305
# Pilot Specification
2008

Level 2

# SPECIMEN ASSESSMENT MATERIALS

Further copies of this booklet are available from:

The GCSE Mathematics Department, AQA, Devas Street, Manchester, M15 6EX
Telephone: 0161 957 3852  Fax: 0161 957 3873



Set and published by the Assessment and Qualifications Alliance.

# Contents

## Unit 1 Functional Mathematics

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| Surname | | Other Names | |
|---|---|---|---|
| Centre Number | | | | | | Candidate Number | | | | |
| Candidate Signature | | | | | | | | | | |

| For Examiner's Use |
|---|
| |

General Certificate of Secondary Education

**MATHEMATICS (PILOT)** **93001/1**
**Unit 1 Functional Mathematics**
**Paper 1 Competency Test**
**Non-Calculator**

ASSESSMENT and QUALIFICATIONS ALLIANCE

Specimen Paper (Curriculum Pathways Pilot) 2008

| For Examiner's Use | |
|---|---|
| Pages | Mark |
| 3 | |
| 4-5 | |
| 6-7 | |
| 8-9 | |
| 10 | |
| TOTAL | |
| Examiner's Initials | |

**For this paper:**

- You must **not** use a calculator

Time allowed: 40 minutes

## Instructions

- Use 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 30.
- The marks for questions are shown in brackets.

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

**1** What is 35.72 to the nearest whole number?

Answer ..... *(1 mark)*

**2** Write these temperatures in order from coldest to warmest.

13°C –13°C 31°C –31°C

Answer ..... *(1 mark)*

**3** Write $\frac{4}{5}$ as a percentage.

.....

Answer ..... % *(1 mark)*

**4** Ben has 72 pence.

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

.....

Answer ..... *(1 mark)*

**5** Luke is paid £4.50 per hour.
He works for 8 hours.

How much is he paid?

.....

Answer £..... *(1 mark)*

**6** A parcel weighs 0.45 kilograms.

What is its weight in grams?

.....

Answer ..... grams *(1 mark)*

**7** You are given that 1 foot = 30 cm

How many centimetres are there in $3\frac{1}{2}$ feet?

.....

.....

Answer ..... cm *(1 mark)*

**8** Jack uses the formula $C = \frac{1}{2}W + 2$ to work out the charge for cleaning windows.

$W$ is the number of windows and $C$ is the charge in pounds.

How much does Jack charge for cleaning 8 windows?

.....

.....

Answer £ ..... *(1 mark)*

**9** Circle the fraction that is equivalent to 60%.

$\frac{6}{100}$ $\frac{1}{2}$ $\frac{3}{4}$ $\frac{1}{6}$ $\frac{3}{5}$

*(1 mark)*

**10** The table shows the number of hours which Farrah works on Saturday and Sunday.

| **Day** | Saturday | Sunday |
|---|---|---|
| **Hours** | $6\frac{1}{2}$ | $4\frac{3}{4}$ |

How many hours does she work altogether?

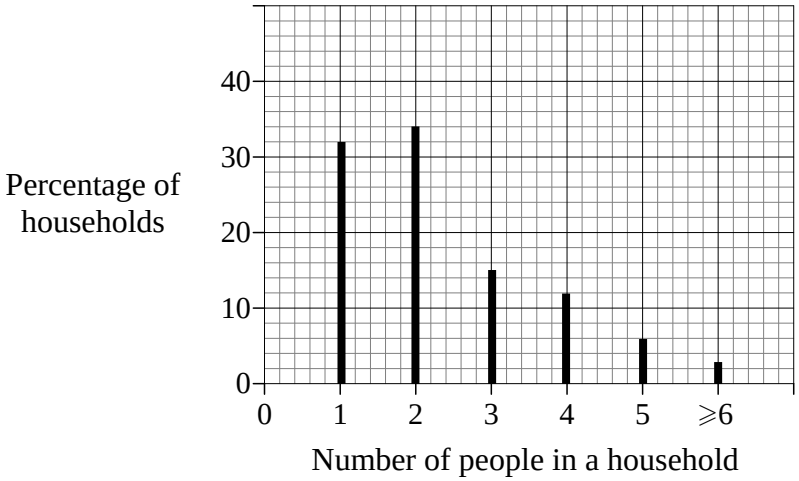
.....

Answer ..... hours *(1 mark)*

10

**Turn over ▶**

**11** 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)*

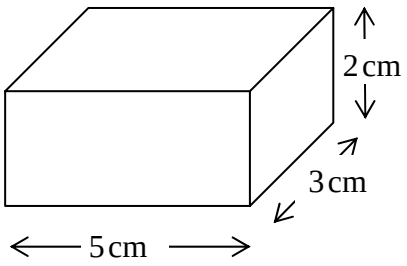
**12** A fair dice is thrown.

What is the probability of getting a number greater than 4?

.....

Answer ..... *(1 mark)*

**13** The diagram shows a cuboid.



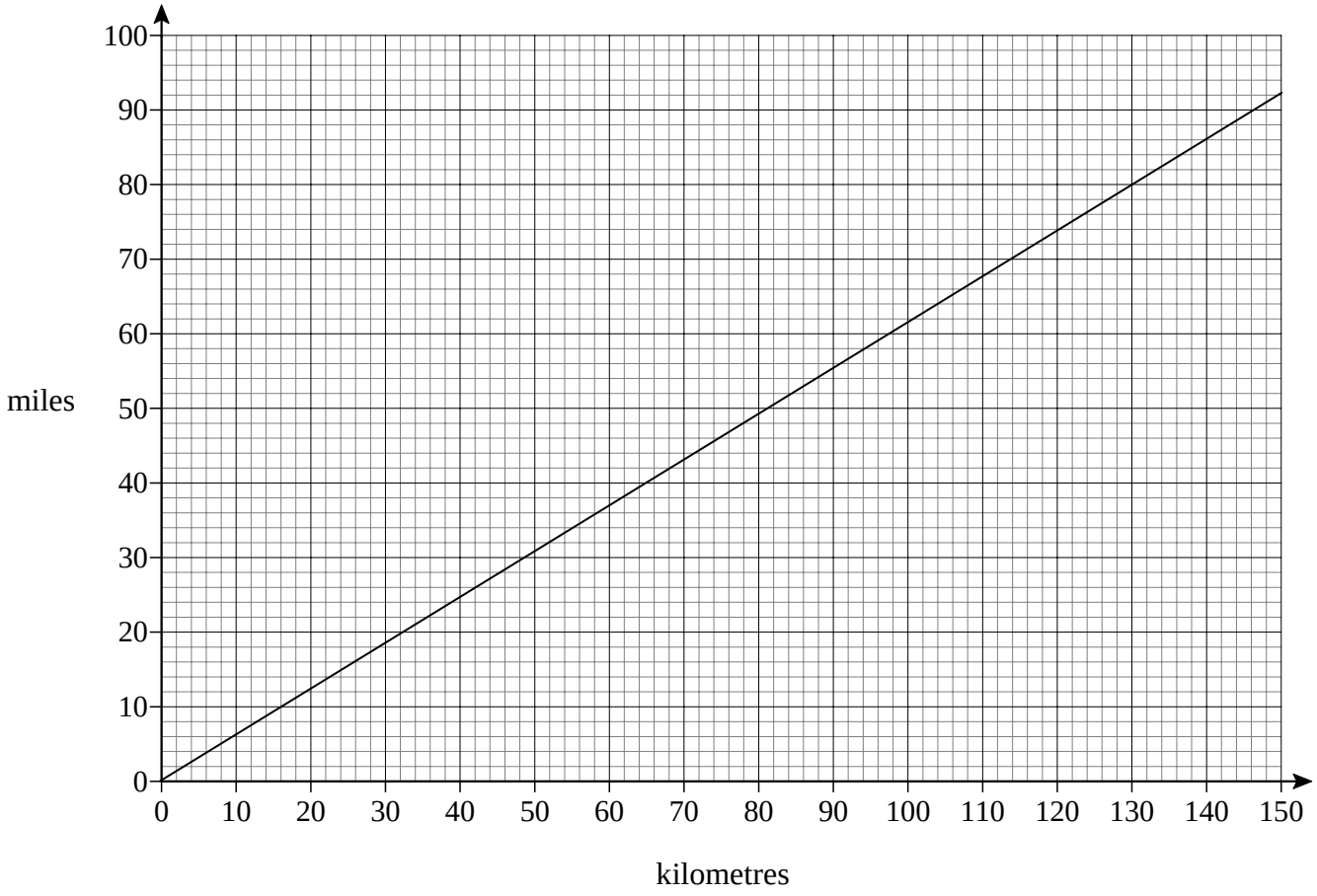

Not drawn accurately

Work out its volume.

.....

Answer ..... $cm^3$ *(1 mark)*

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




Answer ..... km *(1 mark)*

**15** What is two-thirds of 150?

.....

.....

Answer ..... *(1 mark)*

**16** What number is exactly halfway between 5 and –3?

.....

Answer ..... *(1 mark)*

6

**Turn over ▶**

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

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

.....

Answer ..... *(1 mark)*

**18** 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 10 people?

.....

.....

Answer ..... g *(1 mark)*

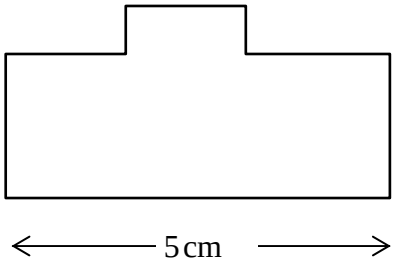
**19** Ten numbers have a mean of 40

What is the total of the ten numbers?

.....

Answer ..... *(1 mark)*

**20** On a scale drawing the length of a room is 5 centimetres.
The scale is 1 : 200




Scale 1 : 200

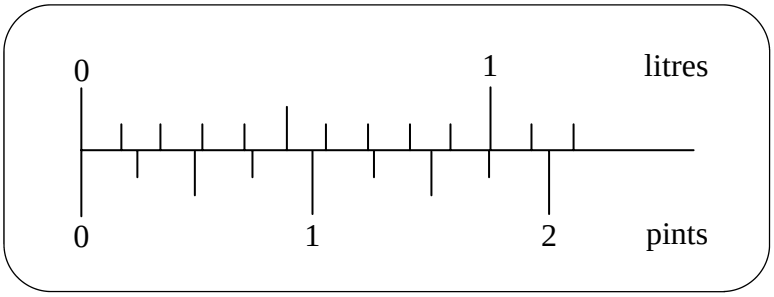
What is the actual length of the room?
Give your answer in metres.

.....

Answer ..... metres *(1 mark)*

LEAVE MARGIN BLANK

**21** The diagram shows a scale for litres and pints.




Estimate the number of millilitres in half a pint.
Give your answer to the nearest 10 millilitres.

.....

Answer ..... millilitres *(1 mark)*

**22** Work out 5% of £110 000

.....

.....

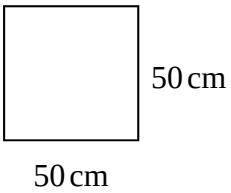
Answer £ ..... *(1 mark)*

**23** Use the exchange rate €1 = £0.65 to convert €15 to pounds.

.....

Answer £ ..... *(1 mark)*

**24** Carpet tiles are squares of side 50 centimetres.




How many carpet tiles are required to cover a square floor of side one metre?

.....

Answer ..... *(1 mark)*

**8**

**Turn over ▶**

**25** 40 miles per hour and 64 kilometres per hour are the same speed.

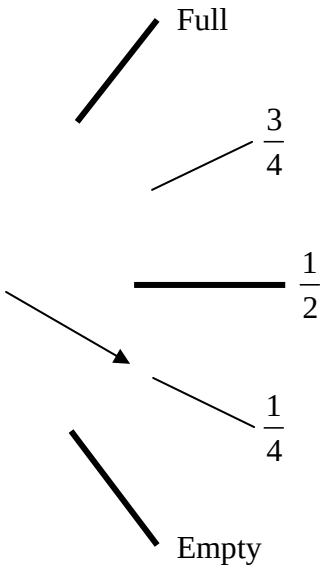
Convert 10 miles per hour to kilometres per hour.

.....

.....

Answer ..... km/h *(1 mark)*

**26** The diagram shows a gauge for a petrol tank.
The tank holds 12 gallons when full.




Work out the number of gallons of petrol left in the tank.

.....

.....

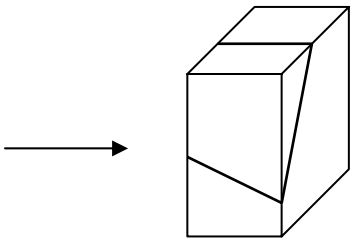
Answer ..... gallons *(1 mark)*

**27** Work out 926 – 388

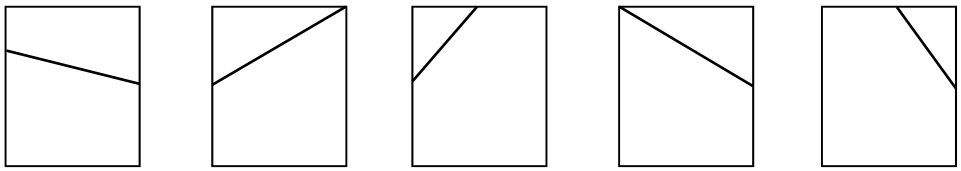
.....

Answer ..... *(1 mark)*

**28** This cuboid has a continuous line drawn on it across four faces.
It is a straight line on all four faces.



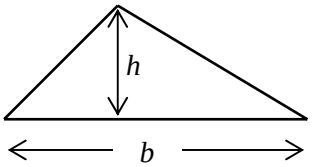
Which of these diagrams shows the face seen from the direction of the arrow?



*A* *B* *C* *D* *E*

Answer ..... *(1 mark)*

**29** The area of a triangle = $\frac{1}{2} \times b \times h$




The area of a triangle = 30 cm$^2$.
The height, $h$ = 5 cm.

Find the value of $b$.

.....

.....

Answer ..... cm *(1 mark)*

5

**Turn over**

**30** The table shows the results of a survey of where 200 people went on holiday.

| Country | Number of people |
|---|---|
| Spain | 110 |
| Scotland | 50 |
| USA | 40 |

What percentage of people in the survey went to Scotland?

.....

.....

Answer ..... % *(1 mark)*

**END OF QUESTIONS**

1

ASSESSMENT and QUALIFICATIONS ALLIANCE

## General Certificate of Secondary Education

# Mathematics 9307

## (Including Functional Mathematics)

*Specimen Mark Scheme*

## Paper 1 Competency

# Mark Scheme

*2008 examination - June series*

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.



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Registered address: AQA, Devas Street, Manchester M15 6EX *Dr Michael Cresswell Director General*

# Paper 1 Competencey

| Question | Answer | Mark | Comment |
|---|---|---|---|
| **1** | 36 | B1 | |
| **2** | –31, –13, 13, 31 | B1 | Ignore °C |
| **3** | 80 | B1 | |
| **4** | 3 | B1 | Accept 50 (p), 20 (p), 2 (p) |
| **5** | 36 | B1 | |
| **6** | 450 | B1 | |
| **7** | 105 | B1 | |
| **8** | £6 | B1 | Do not accept £6.0 |
| **9** | $\frac{3}{5}$ identified | B1 | |
| **10** | $11\frac{1}{4}$ | B1 | oe<br>Accept 11.25, 11.15, 11:15, 11 15 |
| **11** | 12 | B1 | Accept 14 to 16 inclusive |
| **12** | $\frac{2}{6}$ | B1 | oe<br>0.33(…) |
| **13** | 30 | B1 | |
| **14** | 130 | B1 | |
| **15** | 100 | B1 | |
| **16** | 1 | B1 | |
| **17** | 0.3 | B1 | $\frac{3}{10}$ or 30% |
| **18** | 500 | B1 | |
| **19** | 400 | B1 | |
| **20** | 10 | B1 | |
| **21** | 280 | B1 | Accept 270, 290, 300 |
| **22** | 5500 | B1 | |

| Question | Answer | Mark | Comment |
|---|---|---|---|
| **23** | 9.75 | B1 | |
| **24** | 4 | B1 | |
| **25** | 16 | B1 | |
| **26** | 3 | B1 | |
| **27** | 538 | B1 | |
| **28** | E | B1 | |
| **29** | 12 | B1 | |
| **30** | 25 | B1 | |

| Surname | | Other Names | |
|---|---|---|---|
| Centre Number | | | | | | Candidate Number | | | | |
| Candidate Signature | | | | | | | | | | |

| For Examiner's Use |
|---|
| |

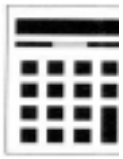
General Certificate of Secondary Education

**MATHEMATICS (PILOT)** **93001/2**
**Unit 1 Functional Mathematics**
**Paper 2 Functionality Test**
**Calculator allowed**

ASSESSMENT and QUALIFICATIONS ALLIANCE

Specimen Paper (Curriculum Pathways Pilot) 2008

| For Examiner's Use | |
|---|---|
| Question | Mark |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| TOTAL | |
| Examiner's Initials | |

| **For this paper:** |  |
|---|---|
| • a calculator<br>• mathematical instruments | |

Time allowed: 1 hour 15 minutes

## Instructions

- Use 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 60.
- 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.

## Advise

- 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) 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)*

(c) 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)*

(d) Adnan is 14 years old.
The table shows the hours he has worked on the first four days of the week.

| **Day** | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|---|---|---|---|---|---|---|
| **Hours** | 5 | 2 | 4 | 5 | | | |

He wants to work the maximum number of hours in the week that he can.

Complete the table to show the number of hours he could work on Friday, Saturday and Sunday.

.....

*(2 marks)*

(e) Stacey and Ray both have a weekend holiday job.
They work on Saturdays and Sundays for the maximum time allowed.
Stacey is 14 years old and is paid £2.50 per hour.
Ray is 16 years old and is paid the minimum wage.
Stacey works for 6 weeks and Ray works for 5 weeks.

Who earns the most?
You **must** show your working.

.....

.....

.....

Answer ..... *(3 marks)*

(f) Tony is 19 years old.
He works 21 hours altogether from Monday to Friday.
He works 4 hours on Saturday.
His pay is £4.50 per hour for Monday to Friday.
On Saturday he is paid an extra 50% per hour.

How much does he earn for the whole week?

.....

.....

.....

Answer £ ..... *(4 marks)*

**15**

**Turn over ▶**

**2 Body-Mass Index**

You will need to use the Data sheet for **Body-Mass Index** to answer this question.

(a) Nicola is classified as overweight.

What is the range of her BMI?

Answer ..... to ..... *(1 mark)*

(b) Bronwen has a BMI of 22.

How is she classified?
Tick the correct box.

| ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|
| Underweight | Healthy | Overweight | Obese |

*(1 mark)*

(c) Jack has a body mass of 60 kg and he is 1.55 m tall.

Use the graph to find his BMI.

Answer ..... *(1 mark)*

(d) (i) Katerina has a body mass of 83 kg and is 1.75 m tall.

Use the formula to calculate her BMI.

.....

.....

.....

Answer ..... *(2 marks)*

(ii) How is Katerina classified?
Tick the correct box.

| ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|
| Underweight | Healthy | Overweight | Obese |

*(1 mark)*

(e) Pierre is 1.90 m tall.
He is classified as healthy.

Use the graph to estimate his minimum and maximum possible body mass.

Answer Minimum ..... kg

Maximum ..... kg *(2 marks)*

(f) William is 1.95 m tall and has a body mass of 62 kg.
He is classified as underweight.
He wants to be classified as healthy on the BMI graph.

How much body mass does he need to gain?
Give your answer to the nearest kilogram.

.....

.....

Answer ..... kg *(2 marks)*

(g) (i) Michael has a BMI of 23 and he is 1.80 m tall.

Work out his body mass.

.....

.....

.....

Answer ..... kg *(3 marks)*

(ii) Paulo has the same body mass as Michael but he is taller.

How does this affect his BMI?
You **must** explain your answer.

.....

.....

.....

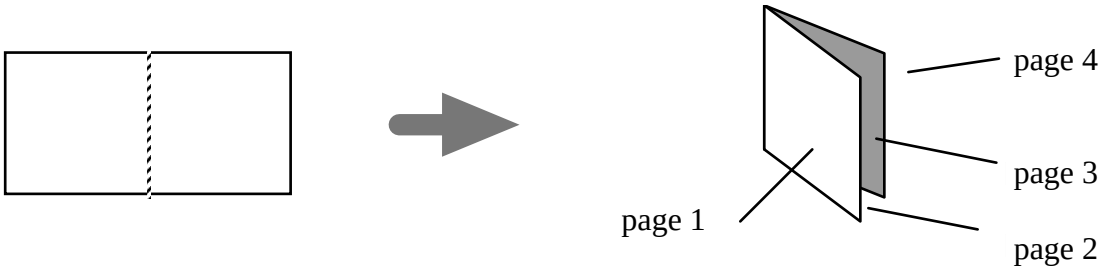
*(2 marks)*

**15**

**Turn over ▶**

**3 Booklets**

You can make a four-page booklet by folding a single sheet of paper in two as shown.

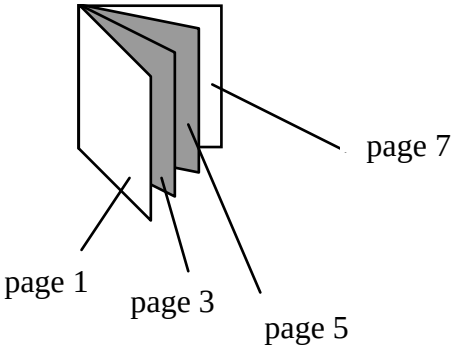




Front and back pages

Inside pages

You can make an 8-page booklet by folding two sheets of paper and placing one inside the other as shown.




(a) How many sheets of paper do you need to make a 20-page booklet?

Answer ..... *(1 mark)*

(b) What are the two page numbers at the centre of a 40-page booklet?

.....

Answer ..... and ..... *(1 mark)*

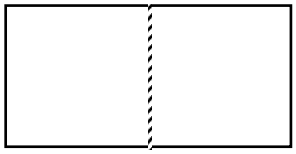
(c) Explain why it is **not** possible to make a booklet with an odd number of pages.

.....

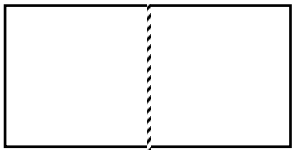
.....

*(1 mark)*

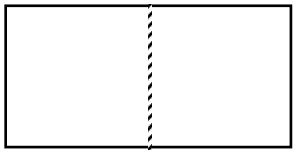
(d) Here is the page layout for an 8-page booklet.

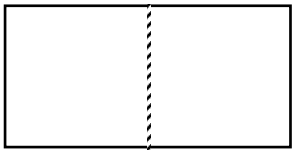


Front and back pages



Inside front and back pages



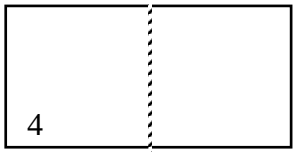


Centre pages

Write the page numbers on the diagrams.

*(3 marks)*

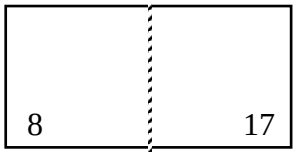
(e) Here is a single sheet for a 16-page booklet.
One page is numbered.




Write the page number on the other page.

*(1 mark)*

(f) Here is a single sheet from a booklet.




How many pages does this booklet have altogether?

.....

.....

Answer ..... *(2 marks)*

**9**

**Turn over ▶**

LEAVE MARGIN BLANK

**4 Weather**

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

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

.....

.....

*(1 mark)*

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

Answer ..... *(1 mark)*

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

Answer ..... *(1 mark)*

(ii) Which day shows the lowest night time temperature in Leeds?

Answer ..... *(1 mark)*

(e) To work out the daily variation in temperature

| |
|---|
| Subtract the minimum night time temperature from the maximum day time temperature on the same day. |

(i) Work out the daily variation in temperature forecast for Saturday in Leeds.

.....

Answer ..... degrees (*1 mark*)

(ii) On which day and in which city is the daily variation in temperature the smallest?

.....

Answer Day.....

City ..... (*1 mark*)

(iii) According to the forecast, which city will have the largest **average** daily variation in temperature?
You **must** show your working.

.....

.....

.....

.....

.....

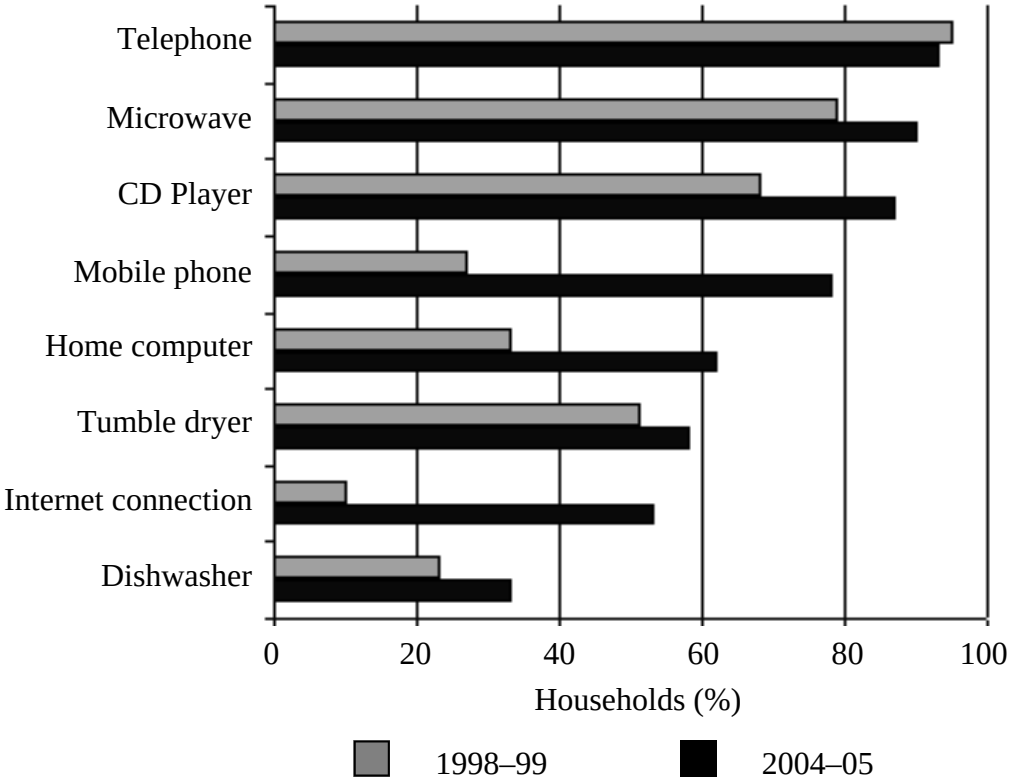
Answer ..... *(4 marks)*

**11**

**Turn over ▶**

**5 Household items**

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




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

Answer ..... % *(1 mark)*

(b) 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)*

(c) (i) Describe how the percentage of households with mobile phones changes 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)*

(d) The table gives more information about households with telephones.

| Year | Total number of households (nearest million) | Households with a telephone |
|---|---|---|
| 1998–99 | 20 | 95% |
| 2004–05 | 25 | 93% |

Use the information to calculate the difference between the number of households with telephones in 1998–99 and 2004–05?
You **must** show your working.

.....

.....

.....

.....

.....

.....

Answer ..... *(4 marks)*

**END OF QUESTIONS**

10

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**DO NOT WRITE ON THIS PAGE**
**ANSWER IN THE SPACES PROVIDED**

ASSESSMENT and QUALIFICATIONS ALLIANCE

## General Certificate of Secondary Education

# Mathematics 9307

## (Including Functional Mathematics)

*Specimen Mark Scheme*

## Paper 2 Functionality

# Mark Scheme

*2008 examination - June series*

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.



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Registered address: AQA, Devas Street, Manchester M15 6EX *Dr Michael Cresswell Director General*

# Paper 2 Functionality

| Question | Answer | Mark | Comment |
|---|---|---|---|
| **1(a)** | 25 | B1 | |
| **1(b)** | 35 – (7 + 8 + 8 + 5)<br>or 35 – 28 | M1 | Condone missing brackets |
| | 7 | A1 | |
| **1(c)** | (£) 3 seen | D1 | |
| | Their (4 × 8 + 2) × Their (£) 3 | M1 | |
| | (£) 102 | A1 | SC1 for (£)105 |
| **1(d)** | Friday + Saturday + Sunday = 9<br>and Friday ≤5 and Saturday≤ 5<br>and Sunday ≤2 | B2 | B1 for any two conditions correct |
| **1(e)** | 7 × 2.5 (× 6) or 105 | M1 | |
| | 10 × 3 (× 5) or 150 | M1 | |
| | Ray | A1 | |
| **1(f)** | 21 × (£) 4.50 or (£) 94.5 | M1 | |
| | (Overtime =) 4.5 × 1.5 or (£) 6.75 | M1 | or (Overtime =) 4 × 1.5 or 6 (hours)<br>oe |
| | Their 94.5 + Their 6.75 × 4 | M1dep | Their 94.5 + Their 6 × 4.5 or<br>Their 27 × 4.5 |
| | (£) 121.50 | A1 | (£) 121.5 scores M1M1M1A0 |

| Question | Answer | Mark | Comment |
|---|---|---|---|
| **2(a)** | 25 to 30 | D1 | |
| **2(b)** | Healthy | D1 | |
| **2(c)** | 25 | D1 | |
| **2(d)(i)** | $83 \div 1.75^2$ | M1 | $83 \div 1.75^2$ |
| | 27(.10…) | A1 | 27(.10…) |
| **2(d)(ii)** | Overweight | D1ft | or ft from Their answer in part (d)(i) |
| **2(e)** | 67 | D1 | |
| | 90 – 91 | D1 | SC1 for any value(s) from healthy range<br>ie, $67 \leq w \leq 91$ with no value(s) outside range |
| **2(f)** | 70 – 71 seen | M1 | |
| | 8 or 9 | A1 | |
| **2(g)(i)** | $23 = W \div 1.8^2$ | M1 | |
| | (W=) 23 × Their $1.8^2$ or<br>(W=) 23 × Their 3.24 | M1 | |
| | 74 (.52…) | A1 | Accept 74 – 75 inclusive<br>73 – 76 inclusive implies M1M1 |
| **2(g)(ii)** | BMI will be smaller or lower | B1 | Accept more healthy, more underweight, less overweight, thinner, slimmer |
| | BMI is inversely proportional to height (squared) | B1 | Accept convincing explanation based on formula and/or graph<br>eg, BMI is smaller because you are dividing by a larger number scores B2<br>Accept an example given which justifies smaller BMI<br>eg, 1.80 → BMI 7.098<br>1.90 → BMI 6.37 |

| Question | Answer | Mark | Comment |
|---|---|---|---|
| **3(a)** | 5 | B1 | |
| **3(b)** | 6 and 7 | B1 | |
| **3(c)** | Valid explanation | B1 | Accept: Must be a multiple of four<br>Do not accept: Because even |
| **3(d)** | All four correct:<br>8, 1 2, 7<br>6, 3 4, 5 | B3 | Any two or three correct: B2<br>Any one correct: B1<br>If none correct: B1 for all four pairs seen (any order, anywhere) |
| **3(e)** | 13 | B1 | |
| **3(f)** | 17 + 7 | M1 | 8 + 17 –1<br>or counting to the middle:<br>8, 9, 10, 11, 12…..13, 14, 15, 16, 17<br>or counting outwards, at least two of:<br>7 and 18; 6 and 19; 5 and 20; 4 and 21;<br>3 and 22; 2 and 23; 1 and 24 |
| | 24 | A1 | |

| Question | Answer | Mark | Comment |
|---|---|---|---|
| **4(a)** | Faster in Leeds or<br>Slower in Paris | B1 | |
| **4(b)** | 3 | B1 | |
| **4(c)** | Moderate visibility | D1 | oe |
| **4(d)(i)** | Sunday | D1 | |
| **4(d)(ii)** | Saturday | D1 | |
| **4(e)(i)** | 4 | B1 | Accept –4 |
| **4(e)(ii)** | Saturday and Paris | B1 | |
| **4(e)(iii)** | Attempt to work out daily variation for Leeds or Paris | M1 | Leeds: 3, 6, 6, 5, 3<br>Paris: 6, 2, 8, 7, 2 |
| | Attempt tp work out an average value of daily variation for Leeds or Paris | M1 | Leeds Mean = 23 ÷ 5 or 3, 3, 5, 6, 6<br>Paris Mean = 26 ÷ 5 or 2, 2, 7, 7, 8<br>ft Their daily variations |
| | 4.6 and 5.2 or 5 and 7 | A1 | Allow 23 and 26 |
| | Paris | A1 | With correct method |

| Question | Answer | Mark | Comment |
|---|---|---|---|
| **5(a)** | 58 or 59% | D1 | |
| **5(b)(i)** | Microwave | D1 | |
| **5(b)(ii)** | Home computer | D1 | |
| **5(b)(iii)** | Internet connection | D1 | |
| **5(c)(i)** | Increases | D1 | |
| **5(c)(ii)** | Cannot double when more than 50% already | D1 | |
| **5(d)** | 95 × 20 ÷ 100 or 93× 25 ÷ 100 | M1 | oe |
| | 19 or 23.25 | A1 | or 19 000 000 and 23 250 000 |
| | 19 + 23.25 | M1 | or 19 000 000 + 23 250 000 |
| | 4 250 000 | A1 | oe |

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General Certificate of Secondary Education

**MATHEMATICS (PILOT)** **93001/PM**
**Unit 1 Functional Mathematics**
**Data Book (Examination)**

Specimen Paper (Curriculum Pathways Pilot) 2008

**Instructions**

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

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

## 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

| Holiday Jobs: hours of work | |
|---|---|
| Age under 13 | • Legally not allowed to work |
| Age 13 to 14 | • A maximum of 25 hours per week<br>• Up to 5 hours a day from Monday to Saturday<br>• Up to 2 hours a day on Sunday |
| Age 15 and over | • A maximum of 35 hours per week<br>• Up to 8 hours a day from Monday to Saturday<br>• Up to 2 hours a day on Sunday |

| Holiday Jobs: rates of pay | |
|---|---|
| Age under 16 | • Pay not covered by minimum wage |
| Age 16 to 17 | • Minimum wage £3.00 per hour |
| Age 18 and over | • Minimum wage £4.25 per hour |

# Data Sheet for Body-Mass Index (Adults)

Body-Mass Index (BMI) is a way of comparing people using their height and body mass (weight).

It is calculated using the formula:

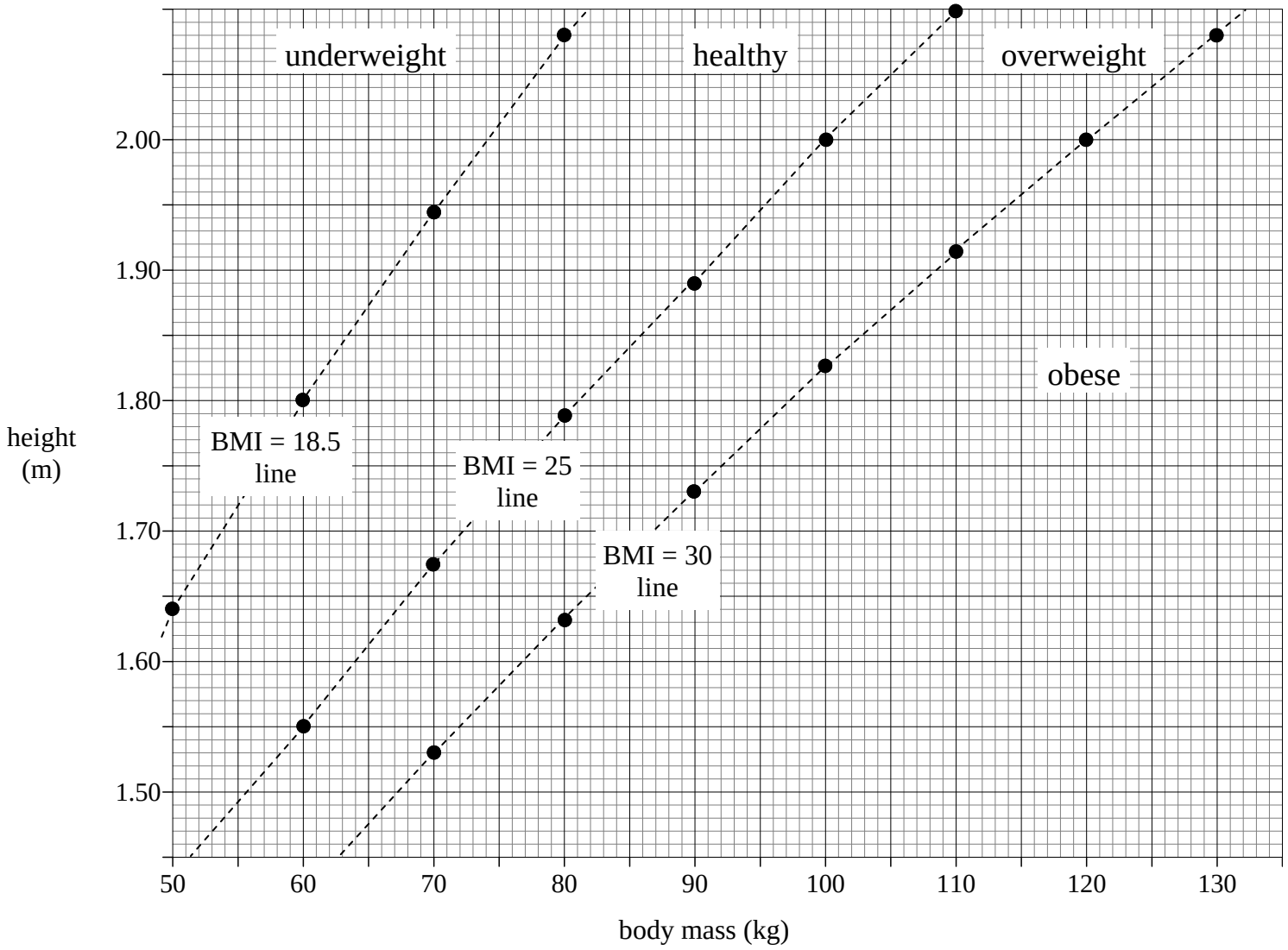
$$\text{BMI} = \frac{\text{body mass}}{\text{height}^2}$$

Body mass is measured in kilograms.
Height is measured in metres.

The table shows the different ranges of BMI.

| **Classification** | **BMI range** |
|---|---|
| Underweight | Less than 18.5 |
| Healthy | 18.5 to 25 |
| Overweight | 25 to 30 |
| Obese | Over 30 |

**Body-Mass Index (BMI)**
**Graph for Adults**



# Data Sheet for Weather

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

**Key:**  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 |