SAMPLE ASSESSMENT MATERIAL
LEVEL 1 FUNCTIONAL SKILLS MATHEMATICS
08848 Calculator paper
Time allowed: 1 hour 20 minutes

You can use:
• a pen with black ink
• a HB pencil for graphs and diagrams
• a calculator
• geometric instruments

For each question, make sure that you:
• read the questions carefully before starting
• write your answers in this booklet in the space/box provided

Please write clearly with black ink.

Centre number ____________________________  Candidate number ____________________________
First name(s) ___________________________________________________________
Last name __________________________
Date of birth D D M M Y Y Y Y

INSTRUCTIONS
• Use black ink.
• Answer all the questions.
• Additional paper may be used if required but you must clearly show your candidate number, centre number and question number(s).
• Show your working out for each question. Marks are awarded for your correct working.

INFORMATION
• The total mark for this paper is 60.
• The marks for each question are shown in brackets [ ].
• This document consists of 12 pages.
Layla and four friends are going on a holiday to Spain.

Planning a Holiday

1 Layla uses a website to compare holiday prices. The table below shows prices for three different apartments.

<table>
<thead>
<tr>
<th>Apartment</th>
<th>1 week price</th>
<th>2 week price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keenan's</td>
<td>£1226.00</td>
<td>£2544.00</td>
</tr>
<tr>
<td>Seaview</td>
<td>£994.45</td>
<td>£1863.50</td>
</tr>
<tr>
<td>Rio</td>
<td>£973.20</td>
<td>£1786.50</td>
</tr>
</tbody>
</table>

(a) Write down the cheapest 1 week price.

£………………………………… [1]

(b) Calculate the difference between Rio’s 1 week price and 2 week price.

£………………………………… [2]

(c) The 5 friends each have £445 to spend on their holiday. They each need £250 of this for spending money. They want to go on holiday for 1 week.

Tick (✔) the apartment(s) they can afford.

Show your working

Keenan’s ✔

Seaview ☒

Rio ☒
2. The friends decide to book an apartment for 1 week. The apartments now have special offers.

<table>
<thead>
<tr>
<th>Keenan's Special Offer</th>
<th>Seaview Special Offer</th>
<th>Rio Special Offer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 off the price of £1226</td>
<td>£75 off the price of £994.45</td>
<td>5% off the price of £973.20</td>
</tr>
</tbody>
</table>

(a) Calculate the new price for Keenan’s.

£...........................................

[3]

(b) Calculate the new price for Rio.

£...........................................

[3]

(c) Which of the three apartments is the cheapest after the special offers?

Show how you decide

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

[2]

[Turn over]
The Weather

3 Layla looks at the temperature forecast for two weeks at the apartment.

Temperatures for week one are in the table below.

<table>
<thead>
<tr>
<th>Day</th>
<th>Temperature °C</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday</td>
<td>19</td>
<td>19</td>
<td>30</td>
</tr>
<tr>
<td>Sunday</td>
<td>15</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td>Monday</td>
<td>22</td>
<td>22</td>
<td>31</td>
</tr>
<tr>
<td>Tuesday</td>
<td>17</td>
<td>17</td>
<td>27</td>
</tr>
<tr>
<td>Wednesday</td>
<td>13</td>
<td>13</td>
<td>23</td>
</tr>
<tr>
<td>Thursday</td>
<td>18</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>Friday</td>
<td>15</td>
<td>15</td>
<td>25</td>
</tr>
</tbody>
</table>

(a) What is the range of the minimum temperatures?

...........................................°C [1]

(b) Calculate the mean of the maximum temperatures.

Show your working

...........................................°C [3]
(c) The first line graph shows the **maximum** temperatures for the first three days for week one. The second line graph shows the **maximum** temperatures for week two.

Complete the first line graph for the maximum temperatures for week one.

![Graph showing maximum temperatures for week one and two](image)

(d) Layla and her friends would like to go on holiday on the warmer week.

Use the graph from part (c) to decide which of the two weeks is warmer. Give a reason for your answer.

Week: ___________________________ because: ...........................................................................

............................................................................................................................................ [2]

[Turn over]
4 (a) One day the temperature was 31°C in Spain and -1°C in the UK.

How many degrees warmer was it in Spain?

\[
\text{...........................................°C}
\]

[1]

(b) Layla’s friend asks how to convert a temperature from Celsius (°C) to Fahrenheit (°F).

Layla uses this flow chart.

\[
\text{Temperature in °C} \rightarrow \times 1.8 \rightarrow + 32 \rightarrow \text{Temperature in °F}
\]

Convert 31°C to °F.

\[
\text{...........................................°F}
\]

[2]

5 This month there are 70% more hours of sunshine in Spain than in the UK.
This month there are 168 hours of sunshine in the UK.

How many hours of sunshine are there this month in Spain?

\[
\text{.............................................hours}
\]

[2]
The Journey

6 (a) The amount of carbon dioxide produced by flying is proportional to the distance flown.

32 tonnes of carbon dioxide will be produced by a 1000km flight.

The distance of their flight to Spain is 1500km

How much carbon dioxide will be produced by their flight?

........................................... tonnes

[b] [3]

(b) A tree takes in 0.02 tonnes of carbon dioxide a year.

Layla says the amount of carbon dioxide taken in by 100 trees in 10 years will be more than that produced by their flight.

Is Layla correct?

Show how you decide

Is she correct?.........................................

[2]
There are 189 passenger seats on the plane.

(a) There are two types of seat:

- Economy
- Business.

\( \frac{2}{3} \) of the seats are Economy.

How many Economy seats are there?

\[ \text{seats} \]

(b) All passenger seats are booked. The ratio of children to adult passengers is 2:7.

How many adults have booked?

\[ \text{adults} \]
There are 63 window seats. These seats are randomly given to passengers.

(i) Circle the word in the list that best describes the probability that Layla is given a window seat.

<table>
<thead>
<tr>
<th>Impossible</th>
<th>Unlikely</th>
<th>Evens</th>
<th>Likely</th>
<th>Certain</th>
</tr>
</thead>
</table>

(ii) Find the probability that Layla is given a window seat.

Give your answer as a fraction in its simplest form.

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

(d) A bag to be allowed in the cabin must fit in this basket.

Layla’s bag is 480 mm by 560 mm by 200 mm.

Is Layla’s bag allowed in the cabin?

Show how you decide

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

...
(e) Spain is 1 hour ahead of UK time. For example, when UK time is 13:00, Spanish time is 14:00.

The plane takes off at 18:20 UK time. The flight duration is 2 $\frac{1}{2}$ hours.

Layla and her friends should arrive at the apartment 1 hour after they land. She estimates they will get to the apartment by 23:00 Spanish time.

Is Layla correct?

Show how you decide

Is she correct?………………………………………... [4]

(f) Layla is looking at a map. On the map, 1 cm represents 8 km. On the map, the distance between the airport and the apartment is 4.5 cm.

Calculate the actual distance between these two places.

………………………………………….. [3]
The Apartment

The apartment has two bedrooms. The plans show the floor of each bedroom.

Layla wants the bedroom with the larger floor area. Which bedroom should she choose?

Show how you decide

Bedroom…………………………………

[4]
9 The apartment has a rectangular pool.
The pool is 10 metres long and 5 metres wide.

At the end of the holiday they add a cleaning product to the water in the pool.
They must use 1 cup of the cleaning product for every 10 cubic metres of water.
The pool is 180 centimetres deep.

Layla thinks they will need 900 cups.

Is Layla correct?

Show how you decide

Is she correct?...........................................

End of the paper
MARKING INSTRUCTIONS

PREPARATION FOR MARKING

Marking

1. Mark strictly to the mark scheme.
2. Marks awarded must relate directly to the marking criteria.
3. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone or by email.
4. Work crossed out:
   a. where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks
   b. if a candidate crosses out an answer to a whole question and makes no second attempt, and if the inclusion of the answer does not cause a rubric infringement, the assessor should attempt to mark the crossed out answer and award marks appropriately.
5. Always check the pages (and additional lined pages if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add an annotation to confirm that the work has been seen.

Subject-Specific Marking Instructions

6. If the correct answer (detailed in the ‘Answer’ column) is clearly given then full marks should be awarded.
7. Figures or expressions that are being followed through will appear after the word their for clarity, e.g. 180 × (their ‘37’ + 16), or 300 – √(their ‘5² + 7²’). Answers to part questions which are being followed through are indicated by e.g. 3 × their (a).

For questions with follow through available you must ensure that you refer back to the relevant previous answer.
8. The following abbreviations are commonly found in Functional Skills mark schemes and in script annotation. They should be followed when annotating scripts in order to clarify where and why credit has been given.
   - **ft** means follow through indicating when this has occurred.
   - **bod** means benefit of doubt situations indicating assessor judgement.
   - **nfww** means not from wrong working.
   - **oe** means or equivalent.
   - **seen** means that you should award the mark if that number/expression is seen anywhere in the answer space, including the answer line, even if it is not in the method leading to the final answer.
   - **soi** means seen or implied.

9. Make no deductions for wrong work after an acceptable answer unless the mark scheme says otherwise, indicated for example by the instruction 'mark final answer'.

10. As a general principle, if two or more methods are offered, mark only the method that leads to the answer on the answer line. If two (or more) answers are offered, mark the poorer (poorest).

11. If the correct answer is seen in the body and the answer given in the answer space is a clear transcription error allow full marks unless the mark scheme says ‘mark final answer’.

   If the answer space is blank but the correct answer is seen in the body allow full marks.

   If the correct answer is seen in the working but a completely different answer is seen in the answer space, then the answer is incorrect. Use the guidance column to award any available marks for workings.

12. Ranges of answers given in the mark scheme are always inclusive.

13. For methods not provided for in the mark scheme give as far as possible equivalent marks for equivalent work. If in doubt, consult your Team Leader.

14. Anything in the mark scheme which is in brackets (...) is not required for the mark to be earned, but if present it must be correct.
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Marks</th>
<th>Guidance</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(a) (£973.20)</td>
<td>1</td>
<td></td>
<td>L1N1</td>
</tr>
<tr>
<td></td>
<td>(b) (£813.30)</td>
<td>2</td>
<td>1 mark: 1786.50 – 973.20</td>
<td>L1N11</td>
</tr>
<tr>
<td></td>
<td>(c) <em>Their</em> 195 × 5 = 975&lt;br&gt;‘Rio’ ticked or indicated</td>
<td>3</td>
<td>1 mark: 445 – 250 (= 195)&lt;br&gt;1 mark: 5 × <em>their</em> 195 (= 975)&lt;br&gt;1 mark: correct apartment(s) ticked/indicated for <em>their</em> 975</td>
<td>L1N1</td>
</tr>
<tr>
<td>2</td>
<td>(a) (£919.50)</td>
<td>3</td>
<td>1 mark: 1226 ÷ 4 (= 306.5)&lt;br&gt;1 mark: 3 × <em>their</em> 306.5 or 1226 – <em>their</em> 306.5</td>
<td>L1N9</td>
</tr>
<tr>
<td></td>
<td>(b) (£924.54 or (£925)</td>
<td>3</td>
<td>1 mark: 973.20 ÷ 100 × 5&lt;br&gt;1 mark: 48.66&lt;br&gt;1 mark: 973.20 - <em>their</em> 48.66</td>
<td>L1M19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Alternate method&lt;br&gt;1 mark: 100 – 5 <em>soi oe</em>&lt;br&gt;1 mark: 973.20 × <em>their</em> 0.95&lt;br&gt;1 mark: correct answer to <em>their</em> calculation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(c) 919.45 &lt; 919.50 &lt; 924.54&lt;br&gt;<em>oe</em>&lt;br&gt;Seaview</td>
<td>2</td>
<td>1 mark: 994.45 – 75 (= 919.45)&lt;br&gt;1 mark: correct answer based on <em>their</em> three prices</td>
<td>L1N10</td>
</tr>
<tr>
<td>3</td>
<td>(a) 9</td>
<td>1</td>
<td></td>
<td>L1D29</td>
</tr>
<tr>
<td></td>
<td>(b) 189 ÷ 7&lt;br&gt;27 (°C)</td>
<td>3</td>
<td>1 mark: 30 + 26 + 31 + 27 + 23 + 27 + 25 (= 189)&lt;br&gt;1 mark: <em>their</em> 189 ÷ 7</td>
<td>L1D29</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
<td>Marks</td>
<td>Guidance</td>
<td>Coverage</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-------</td>
<td>----------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| (c)      | All 3 points plotted and line drawn correctly | 2     | 1 mark: all points plotted correctly  
1 mark: line drawn joining the points | L1D27   |
| (d)      | Week 2/two as all the temperatures are higher than week 1/one except for Saturday and Monday | 2     | 1 mark: Week 2/two with invalid reason  
OR  
1 mark: Week 1/one with mention of Monday hotter/cooler | L1D27   |
| 4        | (a) 32(°C) | 1     | 1 mark: 31 x 1.8 + 32 oe  
1 mark: correct answer to their calculation | L1N2    |
|          | (b) 87.8(°F) | 2     | 1 mark: 31 x 1.8 + 32 oe  
1 mark: correct answer to their calculation | L1N5 (1) L1N11 (1) |
| 5        | 285.6 (hours) | 2     | 1 mark: 70% of 168 soi  
1 mark: 285.6 or 286 (hours) or their 70% + 168  
Alternative method  
1 mark: (100 + 70) ÷ 100 soi  
1 mark: 285.6 × their 1.7 | L1N14b  |
| 6        | (a) 48 | 3     | 1 mark: 32 ÷ 1000 (= 0.032)  
1 mark: their 0.032 × 1500 | L1N17   |
|          | (b) No ft from part (a)  
20 tonnes taken in oe | 2     | 100 x 10 x 0.02 (= 20 (tonnes)) | L1N3    |
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Marks</th>
<th>Guidance</th>
<th>Coverage</th>
</tr>
</thead>
</table>
| 7 (a)    | 126    | 2     | 1 mark: 189 ÷ 3 = 63  
1 mark: *their* 63 x 2 | L1N9 |
| (b)      | 147    | 3     | 1 mark: 2 + 7 = 9 parts  
1 mark: 189 ÷ *their* 9 (correct = 21)  
1 mark: correct answer to *their* 21 x 7 | L1N17 |
| (c) (i)  | Unlikely | 1     |          | L1D30 |
| (ii)     | \frac{1}{3} | 2     | 1 mark: \frac{63}{189} | L1N16 (1)  
L1D31 (1) |
| (d)      | No with supporting evidence | 3     | 1 mark: 48 [cm], 56 [cm], 20 [cm] or 500 [mm], 550 [mm], 240 [mm]  
1 mark: 56 [cm] is too large oe | L1M20 |
| (e)      | Correct as will get to the apartment at 22:50 | 4     | 1 mark: flight arrives at 20:50 UK time (counting 2 $\frac{1}{2}$ hours on from 18:20  
1 mark: flight arrives at 21:50 Spanish time (counting 1 hour on from flight arrival time)  
1 mark: arrive at apartment at 22:50 Spanish time (counting 1 hour on from flight arrival time)  
1 mark: correct as arrival time before 23:00 | L1M20 |
| (f)      | 36 km  | 3     | 1 mark: 4.5 x 8  
1 mark: correct units | L1M21 |
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Marks</th>
<th>Guidance</th>
<th>Coverage</th>
</tr>
</thead>
</table>
| 8        | Bedroom 2 with supporting evidence (i.e. correct areas of the two bedrooms) | 4     | 1 mark: 6 x 4 = 24 (Bedroom 1)  
1 mark: 5 x 4.2 + 2 x 2  
1 mark: 25  
1 mark: their correct decision | L1M22   |
| 9        | Not correct as only needs 9 cups – supported by relevant working        | 6     | 1 mark: depth = 1.8 metres  
1 mark: 10 x 5 x their 1.8  
1 mark: correct answer to their calculation  
1 mark: their 90 \div 10  
1 mark: correct answer to their calculation  
1 mark: correct decision | L1N11  (2)  
L1M20  (2)  
L1M23  (2) |
|          | **Total marks**                                                         | 60    |                                                                          |          |