Level 2 Functional Skills Mathematics
SAMPLE PAPER 2

Duration: 1 hour 20 minutes
Total marks: 45 marks

SECTION 2 – CALCULATOR PERMITTED

Candidate name (first, last)
First
Last

Candidate enrolment number       Date of birth (DDMMYYYY)

Assessment date (DDMMYYYY)    Centre number

Candidate signature and declaration*

• If you have used any additional answer sheets write the number of additional sheets in this box.
• Please ensure that you staple additional answer sheets to the back of this booklet, clearly labelling them with your full name, enrolment number, centre number and date in BLOCK CAPITALS.
• You must use a black or blue pen. You may use a pencil for charts and diagrams.

*I declare that I had no prior knowledge of the questions in this assessment and that I will not share information about the questions.

Please check that your name is correctly printed on the candidate barcode label. If not, please tell the invigilator before the start of the exam.

You should have the following for this assessment
• a calculator
• a pen with black or blue ink
• a pencil (for diagrams, graphs and charts only)
• an eraser
• a 30cm ruler.

You must NOT use a protractor.

General instructions
• Read through each question carefully.
• Show your working out (where required).
• Write all your working out and answers in this booklet.
• Check your calculations and check that your answers make sense.
• There are additional pages including graph paper at the back of this booklet if you run out of space or ask the invigilator if you need additional sheets of paper.
SECTION 2 – CALCULATOR PERMITTED

There are 45 marks in this section.

You should check all your work as you go along.

You may use a calculator.
Q1

0.06 million \div 6.2\ thousand =

Give your answer to two decimal places

Q2

What is \( \frac{3}{87} \) as a decimal correct to three decimal places?

Q3 The diagram shows the outline of a building.

Which one of the above shows the elevation of the left side of the building?

(tick one box)

A

B

C

D

(1 mark)
Q4

1m³ is the same as

(tick one box)

A  100 cm³  □
B  1000 cm³ □
C  100000 cm³ □
D  1000000 cm³ □

(1 mark)

Q5 A social club sells 50 pink raffle tickets and 75 yellow raffle tickets.

Tickets are drawn randomly.

What is the probability that the first ticket drawn will be a pink ticket?

Give your answer as a decimal.

__________________________________________________________

(1 mark)
Q6 The chart shows finishing times of marathon runners.

A report states that most of the runners finished in under 4 hours.

Is the report correct?

Explain your decision.
Q7 A shop has a sale. 
There is 30% off all black tag items.

One day this notice appears in the shop.

One day only 
BLACK TAG
An extra 25% off marked reduced price
BETTER THAN HALF PRICE!

A customer complains that the notice is misleading because it is not true.

Is the customer correct?
Explain your decision. Include calculations to support your decision.

Decision (tick one box) 
Yes [ ] No [ ]

Show all your working

Explanation and supporting calculations.

(3 marks)
Q8 A craftsman uses resin to make a paperweight.

He makes the paper weight from two parts, a hemisphere and a cylinder.

He uses this plan.

![Diagram showing a hemisphere and a cylinder with dimensions 3cm, 5cm, and 6cm.]

$$V = \frac{2}{3} \pi r^3$$

$V$ = volume of hemisphere in cm$^3$

$r$ = radius of hemisphere in cm

$\pi = 3.14$

How much resin does he need for both parts?

Show all your working

Amount of resin __________ cm$^3$

(4 marks)
Q9 A gardener wants to build this greenhouse in the top right hand corner of her garden.

This is a sketch plan of her garden.

She will leave a 50cm space between the greenhouse and the edge of the garden. She wants a scaled plan of the garden showing the position of the greenhouse.

Draw a scale plan. Put the scale you use on the plan.
There is spare graph paper on page 23
Q10 A student wants to raise £100 for charity.
He will sell hot dogs at a disco.
He will make 150 hot dogs.
He buys ingredients at The Supermarket

The Supermarket
Hot dog sausages tin of 8  50p
Hot dog buns packet of 6  90p

If he sells all the hot dogs, what is the minimum price he must charge to make a profit of £100?

Show all your working

Minimum price per hot dog __________________

(4 marks)
Q11 A supermarket buyer compares large eggs from two suppliers. She wants to buy the largest eggs. The table shows the masses of a sample of large eggs from Supplier A.

<table>
<thead>
<tr>
<th>Weight in grams</th>
<th>Number of eggs</th>
</tr>
</thead>
<tbody>
<tr>
<td>63 &lt; g ≤ 65</td>
<td>22</td>
</tr>
<tr>
<td>65 &lt; g ≤ 67</td>
<td>27</td>
</tr>
<tr>
<td>67 &lt; g ≤ 69</td>
<td>26</td>
</tr>
<tr>
<td>69 &lt; g ≤ 71</td>
<td>15</td>
</tr>
<tr>
<td>71 &lt; g ≤ 73</td>
<td>10</td>
</tr>
</tbody>
</table>

A similar sample taken from supplier B gives a mean value of 66.5g

Which supplier should the buyer use? Explain your decision.

Decision *(tick one box)*  
Supplier A  Supplier B

Show all your working

Explanation and supporting calculations.

(4 marks)
Q12 A man has £5000.
He will put his money into a savings account at a bank.
He wants to save it for one year.
Bank A pays 2% compound interest. It adds interest every 6 months.
Bank B pays 3.15% annual interest rate.

Which bank should the man choose?
Explain your decision. Include calculations to support your decision.

Decision (tick one box)  Bank A  Bank B

Show all your working

Explanation and supporting calculations.

(4 marks)
Q13 A magazine article has this headline.

Garden birds in decline
Fewer birds seen in our gardens

An environmental organisation records information about bird populations.

The graph shows some data about two types of garden birds.

Is the magazine headline correct?

Show suitable calculations of percentage changes for the last ten years and draw trend lines on the graph to support your answer.

Explain your answer and make two comments.

Show all your working

Comment 1

Comment 2
A team manager wants to pick four people for a bowling competition.

She decides to pick players with consistently good average (median) scoring performances.

She picks the following three people.

<table>
<thead>
<tr>
<th>Player</th>
<th>Average score (median) over last eight matches</th>
<th>Range of scores over last eight matches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archie</td>
<td>105</td>
<td>26</td>
</tr>
<tr>
<td>Baz</td>
<td>101</td>
<td>37</td>
</tr>
<tr>
<td>Cathy</td>
<td>99</td>
<td>32</td>
</tr>
</tbody>
</table>

She needs one more player to make up the team.

She looks at the scores of two more players.

<table>
<thead>
<tr>
<th>Scores in last eight matches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dave</td>
</tr>
<tr>
<td>78</td>
</tr>
<tr>
<td>48</td>
</tr>
<tr>
<td>102</td>
</tr>
<tr>
<td>98</td>
</tr>
<tr>
<td>86</td>
</tr>
<tr>
<td>101</td>
</tr>
<tr>
<td>67</td>
</tr>
<tr>
<td>96</td>
</tr>
</tbody>
</table>

Make suitable calculations for Dave and Elaine. Decide which player best fits the requirements. Explain your decision using figures.

**Player picked (tick one box)**  
- Dave  
- Elaine

**Explanation and supporting calculations**
Q15 A fisherman sets off from Dunsey in a boat.
His boat will travel at an average speed of 5 kilometres per hour.
He has this map so that he can avoid the rocks.

He needs to meet up with a ship at coordinate L34 at 5pm
He needs to know at what time he must leave Dunsey.

At what time must he leave Dunsey?

Show all your working.

Time to leave Dunsey _________________

(5 marks)
Spare graph paper for Question 9
Extra space for working out and answers

End of section 2