0 1 . 1   **Table 2** lists five different quantities of memory, each measured using different units.

Place the quantities of memory into order by writing the numbers 1 to 5 in the
Position column of **Table 2**, with 1 representing the smallest quantity and 5
representing the largest quantity.

[2 marks]

Table 2

Quantity	Position
3 kilobytes	
2 mebibytes	
2 bytes	
2 megabytes	
20 bits	

0 2 . 1 How many different values can be represented using two bytes?

[1 mark]

0 3 . 1 How many different values can be represented using 10 bits?

[1 mark]

0 4 . 1 Shade in **one** lozenge to indicate which of the following prefixes represents 10^6

[1 mark]

A   kibi   ⬭

B   mebi   ⬭

C   gibi   ⬭

D   kilo   ⬭

E   mega   ⬭

F   giga   ⬭

0 4 . 2   **Table 1** shows two unsigned binary integers, **Number 1** and **Number 2**.

Complete the table to show the result in binary of adding the two numbers.

You **must** complete the carry row to show the carry from the previous column where there is one.

Table 1

Number 1	0	0	0	1	1	0	1	1
Number 2	0	0	0	0	0	1	1	1
Result								
Carry								

[1 mark]

0 4 . 3   What is the result of subtracting the two's complement binary number `00100100` from the two's complement binary number `00011011`?

You should give your answer in two's complement binary.

You **must** show all your working in binary.

[2 marks]

0 4 . 4   In **decimal**, what are the lowest and highest values that can be represented by an **8-bit two's complement** binary integer?

[1 mark]

Lowest: _____   Highest: _____

0 4 . 5 What is the **decimal** equivalent of the bit pattern shown in **Figure 1** if it represents an **unsigned fixed-point binary** value with two bits before the binary point and six bits after the binary point?

Figure 1

1	1	0	1	1	1	0	1

[2 marks]