Qu		Marks	
1	1	**Marks are for AO1 (understanding)** **Mark as follows:** **1 mark** for bits, bytes and kilobytes in correct positions **1 mark** for mebibytes and megabytes in correct positions	**2**

Quantity	Position
3 kilobytes	3
2 mebibytes	5
2 bytes	1
2 megabytes	4
20 bits	2

Qu		Marks	
2	1	**Mark is for AO2 (apply)** 2^{16} / 65 536;	1

Qu	Pt	Marking Guidance	Marks
3	1	**Mark is for AO2 (application)** 2^{10} // 1024;	1

Qu	Pt	Marking Guidance	Marks
4	1	**Mark is for AO1 (knowledge)** **E** (mega); **R**. More than one lozenge shaded.	1

Qu	Pt	Marking Guidance	Marks
4	2	**Mark is for AO2 (application)** Mark is for result and carry mark completed as shown **A.** Missing 0s in carry row.	1

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

Qu	Pt	Marking Guidance	Marks
4	3	**Marks are for AO2 (application)** **1 mark** for correct conversion of `00100100` (36) to `11011100` (–36); **1 mark** for binary addition of `00011011` and `11011100` producing `11110111`; **A.** Follow through of incorrect representation of –36 for second mark. // **2 marks** if correct answer and any relevant working shown which indicates an attempt at using two's complement to solve the problem. **R.** Reject both marks if only decimal subtraction has been used.	2

Qu	Pt	Marking Guidance	Marks
4	4	**Mark is for AO1 (understanding)** Lowest: –128 Highest: (+)127 **Note:** Both answers must be correct to award mark.	1

Qu	Pt	Marking Guidance	Marks
4	5	**Marks are for AO2 (application)** $3\frac{29}{64}$ // $\frac{221}{64}$ // 3.453125 **Mark as follows:** **1 mark** for correct integer part (3) **1 mark** for correct fractional part ($\frac{29}{64}$ or .453125) // **2 marks** for $\frac{221}{64}$	2