

8 (a) Hexadecimal can be used to represent binary numbers.

(i) Convert the denary number 236 into hexadecimal.

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..... [1]

Working space

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(ii) Give **one** benefit of using hexadecimal instead of binary to represent data.

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..... [1]

(b) Two's complement can be used to represent positive and negative binary integers.

(i) Convert the two's complement integer 10110111 into denary.

Show all your working.

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(ii) Convert the denary number 45 into an 8-bit two's complement integer.

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Working space

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(c) Logical shifts are performed on binary integers.

State the mathematical effect of a right shift of **four** places on a positive binary integer.

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..... [2]