

3 Binary is a base 2 number system.

(a) Give the name of the number system that is base 16.

..... [1]

(b) **Three** denary numbers are entered into a computer. The computer converts the numbers and stores them as binary.

(i) Give the binary number that would be stored for each of the denary numbers.

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201

[3]

Working space

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(ii) Explain why the data is converted to binary by the computer.

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..... [2]

(c) The two binary integers 00110000 and 01100110 are added together.

Add the binary integers using binary addition and show your answer in binary. Show all your working.

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..... [3]



(d) The denary integer -32 is stored as a two's complement integer.

Calculate the two's complement integer that would be stored.

Show all your working.

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..... [2]