1 A student records himself singing a song for his music project. The recorded sound is converted to binary to be processed by a computer.

(a) Give **one** input device the student can use to record the song.

..... [1]

(b) The student uses sound editing software to edit the recorded sound.

Tick (✓) **one** box to show whether sound editing software is an example of application, security, system or utility software.

A application software ☐

B security software ☐

C system software ☐

D utility software ☐

[1]

(c) Two binary numbers stored from the recording are 00011001 and 10110100.

(i) Convert the **two** binary numbers to denary numbers.

00011001 .....

10110100 .....

[2]

Working space

.....

.....

.....

.....

(ii) Convert the **two** binary numbers to hexadecimal numbers.

00011001 .....

10110100 .....

[2]

Working space

.....

.....

.....

.....

(iii) A logical right shift of two places is performed on the binary number 10100100.

Give the binary number that would be stored after the logical shift has taken place.

..... [1]

Working space

.....

.....

.....

(d) The two's complement 8-bit binary integer 11001001 is also stored.

Convert the two's complement 8-bit binary integer to denary. Show all of your working.

Working space .....

.....

.....

.....

Denary value .....

[2]

(e) The table contains terms and descriptions about the process of converting analogue sound to binary.

Complete the table with the missing term and descriptions.

Term	Description
.....	This is the measurement of the height (amplitude) of a sound wave taken at regular time intervals.
sample rate	....
sample resolution	....

[3]