1/w

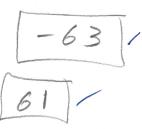
Name I smael Cortez

Please use pencil and erase mistakes. Show your work and put a box around numeric answers. 10 points.

Convert the following 8-bit two's complement binary numbers to decimal (1 each):

$$\begin{array}{r}
1110|0101 \\
00011011 \\
-64+32+4+1 \\
-32+4+1 \\
1100|0001 \\
-128+64+1 = -64+1
\end{array}$$

32 + 16 + 3 + 4 + 1 32 + 29 = 61



Sign-extend the following 8-bit hexadecimal numbers to 32 bits. Write them in hexadecimal (1 each).

$$0x85$$
 $86i4$
 $0x73$
 $0x60606073$

Write a complete MIPS program that loads the value 35 (decimal) into register \$t0, then converts it to -35 in register \$t1 without using the neg macro, subtracting from zero or adding a negative value. Convert directly by using the 2's complement sign reversal algorithm. This program is fewer than 5 instructions or macros. (5 points)

· text . , 1061 main?

ori \$t0, \$0, 35.

nor \$t0, \$t0, \$t0.

addia \$t1, \$t0, 1

\$t0 = 0010 0011 # \$t0 = 1111.... 1101 1100 # \$t1 = 0x FFFFFFDD