Physics 234: Quiz 1

Wednesday, January 19, 2011

Student's Name: _____

1. The 8-bit unsigned binary computation shown below represents the addition 35 + 165 = 200. Fill in the missing six digits (zeros and ones) in the bottom row *and* the missing carry bits in the top row.

		1			1	1	1	
	0	0	1	0	0	0	1	1
+	1	0	1	0	0	1	0	1
	1	1	0	0	1	0	0	0

2. Reinterpret the computation in Question 1 as the addition of two signed binary integers in the two's complement scheme. Report your answer in decimal.

$$\boxed{35 + (-91) = -56}$$

3. Express the hexadeximal number $12\mathrm{F}_{16}$ in octal.

$$\boxed{457_8}$$