

Q1

$$52_{16} = 5 \cdot 16_{10} + 2_{10} = 82_{10}$$

$$2^{n-1} > 82_{10} \quad n \geq 8$$

$$2^{n-1} \geq 53_{10} \quad n \geq 7$$

n	1	2	3	4	5	6	7	8
2^{n-1}	0	2	4	8	16	32	64	128

$$52_{16} = 0101\ 0010_2 = 0\ 0101\ 0010_{16} = 01010010_{16}$$

8 bit

$$53_{10} = 110101_2 = 0110101_{16}$$

$$-53_{10} = 1001010 + 1 = 1001011_{16}$$

7 bit

$$= 11001011_{16}$$

8 bit

53	2	1 ↑
26	2	0
13	2	1
6	2	0
3	2	1
1	2	1
0		

$$\begin{array}{r} 01010010 \\ + 11001011 \\ \hline 00011101 \end{array}$$

RIPORTO SI
OVERFLOW NO

$$\begin{array}{r} 01010010 \\ + 00110101 \\ \hline 10000111 \end{array}$$

RIPORTO NO
OVERFLOW SI