

## 5) (10 pts) ALG (Base Conversion)

- a) Convert the hexadecimal number AF2E9 to binary without first converting to the base 10 equivalent

A F 2 E 9

10 15 2 14 9

1010 1111 0010 1110 1001

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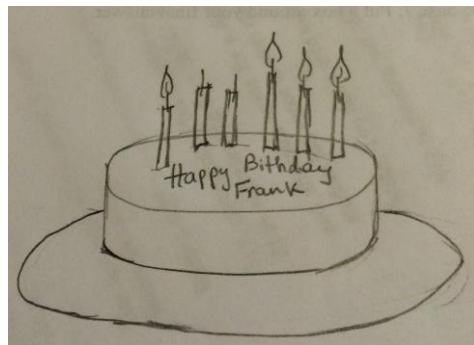
**Grading: 5 pts total - 1 pt for each group of 4 bits. All 4 bits in the group have to be correct to get the point.**

- b) Frank is the team-lead for the software testing team at his job. He is celebrating his birthday. Some of his co-workers have baked a cake for the celebration and thought that it would be really cool to put candles on his cake to represent his age in binary. An unlit candle represents the 0 bit. From the pic of the cake below, how old is Max?

100111  
 | | | |  
 32 4 2 1

$$= 32 + 4 + 2 + 1 = 39$$


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**Grading: 5 pts total**

**4 pts : 1 for decimal for each digit**

**1 pt for final answer**

**Note: Also give full credit for  $32 + 16 + 8 + 1 = 57$ , though most students will read left to right.**