1.)
       a. 9 bits are needed because 2^9 is 512 including zero.

       b. 112 more students can be added

2.) $428_{10} = 1101\ 0110\ 0_2$ and $428_{10} = 1AC_{16}$

3.) $B25EA4D_{16} = 1311365115_8$

4.) $FF_{16} = 1111\ 1111_2$ => $-127_{10(S/M)}$ => (a) $255_{10(U/S)}$ => (b) $-1_{(2\text{'sC})}$ => (c) $-0_{(1\text{'sC})}$

5.) $3B5D_{16}$ => (a) $0011\ 1011\ 0101\ 1101_2$ => (b) $1100\ 0100\ 1010\ 0011_{2(2\text{'sC})}$ => (c) $C4A3_{16}$.

6.) $1100\ 0010\ 0110\ 011_2$ => (a) 6133_{16} => (b) $a3_{(ASCII)}$.

7.) $BED0\ 0000_{16}$ => (a) $1011\ 1110\ 1101\ 0000\ 0000\ 0000\ 0000\ 0000_2$ => (b) -0.40625_{10}.

8.) 5+43/64 => $0000\ 0101.101011_2$ Scientific.

9.) 5+43/64 => (a) $0111\ 1111\ 1011\ 0101\ 1000\ 0000\ 0000\ 0000_2$ => (b) 40B58000.

10.)   Unknown

11.)   (a) No truncation .00001+.00001=.00010   (b) No truncation = 1.00010.

12.)   (a) Truncation because there are more than 5 bits   (b) Truncation carries over