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a) $10,5625_{10} = 1010,1001_2$

$$\begin{array}{r} 10 \underbrace{12} \\ 05 \underbrace{12} \\ 12 \underbrace{12} \\ 01 \end{array}$$

$$\begin{aligned} 0,5625 \times 2 &= 1,125 \\ 0,125 \times 2 &= 0,250 \\ 0,250 \times 2 &= 0,500 \\ 0,500 \times 2 &= 1 \end{aligned}$$

b) $255 \underbrace{12}$

$$\begin{array}{r} 1127 \underbrace{12} \\ 163 \underbrace{12} \end{array}$$

$$131 \underbrace{12}$$

$$115 \underbrace{12}$$

$$\begin{array}{r} 17 \underbrace{12} \\ 13 \underbrace{12} \\ 11 \end{array}$$

$$11111111_2$$

c) $256 \underbrace{12}$

$$\begin{array}{r} 0128 \underbrace{12} \\ 064 \underbrace{12} \\ 032 \underbrace{12} \end{array}$$

$$1000\ 0000$$

$$016 \underbrace{12}$$

$$08 \underbrace{12}$$

$$04 \underbrace{12}$$

$$\begin{array}{r} 02 \underbrace{12} \\ 01 \end{array}$$

d) $01 = 1$

e) $0 = 0$

3) a) 1011_2

$$1 \cdot 2^0 + 1 \cdot 2^1 + 0 \cdot 2^2 + 0 \cdot 2^3 + 1 \cdot 2^4$$

$$1 + 2 + 0 + 0 + 16 = 19_{10}$$