1. 0.25 Base 10 → $0 \times 10^0 + 2 \times 10^{-1} + 5 \times 10^{-2}$

$0.25 \times 2 = 0.50 \rightarrow 0$

$0.50 \times 2 = 1.00 \rightarrow 1$ → 0.01 base 2

.010 → suppose to become 0.2?

base 8 =

base 16 = .0100 supposed to become 0.4?

2. 0.25 Base 8 → $2 \times 8^{-1} + 5 \times 8^{-2}$

$2 \times \frac{1}{8} + 5 \times \frac{1}{64} = \frac{2}{8} + \frac{5}{64} \rightarrow \frac{16}{64} + \frac{5}{64}$

$\frac{21}{64} \rightarrow 0.328125_{(10)}$ Base 10

Base2 → .010101

Base 16 → .0101,0100

= .54 (?)

$0.328125 \times 2 = 0.65625$ 0

$0.65625 \times 2 = 1.3125$ 1

$0.3125 \times 2 = 0.625$ 0

$0.625 \times 2 = 1.25$ 1

$.25 \times 2 = .50$ 0

$.50 \times 2 = 1$ 1

3. 0.25 Base 16 → $\frac{0}{16^0} \cdot \frac{2}{16^{-1}} \frac{5}{16^{-2}} = 2 \cdot \frac{1}{16} = \frac{2}{16} \rightarrow \frac{32}{256}$

$5 \cdot \frac{1}{256} = + \frac{5}{256}$

$\frac{37}{256}$

Base 10 = $\frac{37}{256}$ = 0.14453125

Base 2 = $0.14453125 \times 2 = 0.2890625$ 0

$0.2890625 \times 2 = 0.578125$ 0

$0.578125 \times 2 = 1.15625$ 1

$0.15625 \times 2 = 0.3125$ 0

$0.3125 \times 2 = 0.625$ 0

$0.625 \times 2 = 1.25$ 1

$0.25 \times 2 = 0.50$ 0

$0.50 \times 2 = 1$ 1

.00100101 ←

Base 8 ↓

.001,001,010

.112

4. 0.1101 Base 2 →

Base 8 → $.\underline{110}\,\underline{100} = .64$

Base 16 → $.\underline{1101} = .D$

Base 10 → $1 \times 2^{-1} + 1 \times 2^{-2} + 0 \times 2^{-3} + 1 \times 2^{-4}$

$\frac{1}{2} + \frac{1}{4} + 0 + \frac{1}{16}$

$\frac{8}{16} + \frac{4}{16} + \frac{1}{16} = \frac{13}{16}$

$0.8125_{(10)}$