

1) $100 \rightarrow \boxed{1100100}$
 Radix 2

$$\begin{array}{r}
 100/2 \\
 \boxed{0} 50/2 \\
 \boxed{0} 25/2 \\
 \boxed{1} 12/2 \\
 \boxed{0} 6/2 \\
 \boxed{0} 3/2 \\
 \boxed{1} 1/2 \\
 \boxed{1} 0
 \end{array}$$

Radix 3
 $\rightarrow \boxed{10201}$

$$\begin{array}{r}
 100/3 \\
 \boxed{1} 33/3 \\
 \boxed{0} 11/3 \\
 \boxed{2} 3/3 \\
 \boxed{0} 1/3 \\
 \boxed{1} 0
 \end{array}$$

Radix 4
 $\rightarrow \boxed{1210}$

$$\begin{array}{r}
 100/4 \\
 \boxed{0} 25/4 \\
 \boxed{1} 6/4 \\
 \boxed{2} 2
 \end{array}$$

Radix 5
 $\rightarrow \boxed{400}$

$$\begin{array}{r}
 100/5 \\
 \boxed{0} 20/5 \\
 \boxed{0} 4/5 \\
 \boxed{4} 0
 \end{array}$$

Radix 6
 $\rightarrow \boxed{244}$

$$\begin{array}{r}
 100/6 \\
 \boxed{1} 16/6 \\
 \boxed{4} 2/6 \\
 \boxed{2} 0
 \end{array}$$

Radix 7
 $\rightarrow \boxed{202}$

$$\begin{array}{r} 100 \overline{) 7} \\ 30 \overline{) 14} \\ 2 \overline{) 20} \end{array}$$

Radix 8
 $\rightarrow \boxed{144}$

$$\begin{array}{r} 100 \overline{) 8} \\ 20 \overline{) 12} \\ 4 \overline{) 18} \\ 1 \overline{) 18} \\ 0 \end{array}$$

Radix 9
 $\rightarrow \boxed{111}$

$$\begin{array}{r} 100 \overline{) 9} \\ 0 \overline{) 11} \\ 1 \overline{) 19} \\ 1 \overline{) 19} \\ 0 \end{array}$$

(3) A) $9 \rightarrow 1001 \times 2^0$
 1.001×2^3
 $1245 = 130$

$\boxed{41100000}$

$\odot 10000010 \ 001000...$

B $5/32 = 0.15625$ 0.10100×2^0
 1.0100×2^{-1}

$0.15625 \times 2 = 0$
 $0.3125 \times 2 = 0$
 $0.625 \times 2 = 1$
 $0.25 \times 2 = 0$
 $.5 \times 2 = 1$

$00111110 \ 0100$

$\boxed{3F200000}$

(4a)

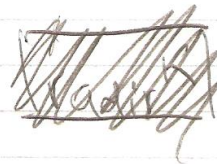
42E48000 \rightarrow 0 10000101 1100100100...

6 59 1.11001001^6
 1110010.01×2^6

$\frac{1}{2} + \frac{1}{4} + \frac{1}{32} + \frac{1}{256}$

$\frac{1}{4}$

114.25



(4b)

00800000

00000000010000...

1.0×2^{-126}

5)

0 01111101 110000...

0 01111011 0000

2^{-2}

1.0×2^{-4}

1.11×2^{-2}

111.0×2^{-4}

1000.0×2^{-4}

11
111

001

1000

1.0×2^{-1}

$127-1=126$

59

0 01111110 0

$BF000000$