

$(127)_{10}$

2	127		<u>111111</u>	<u>111111</u>
2	63	1	$(1\ 7\ 7)_8$	$(7\ F)_{16}$
2	31	1	$1 \times 8^2 + 7 \times 8^1 + 7 \times 8^0$	$= 7 \times 16^1 + F \times 16^0$
2	15	1	$64 + 56 + 7$	$= 112 + 15$
2	7	1	$(127)_{10}$	$= (127)_{10}$
2	3	1		
	1	1		

$$(127)_{10} = (1111111)_2$$

$(10101)_2$

$$\begin{array}{r} 10101 \\ (2\ 5)_8 \end{array} \quad \begin{array}{r} 10101 \\ (1\ 5)_{16} \end{array}$$
$$2 \times 8^1 + 5 \times 8^0 = 1 \times 16^1 + 5 \times 16^0$$
$$16 + 0 = 16 + 0$$
$$16 = 16$$

$(71)_8$

$$\begin{array}{r} 71 \\ (111\ 001)_2 \end{array} \quad \begin{array}{r} 11001 \\ (3\ 9)_{16} \end{array}$$

$$1 \times 8^5 + 1 \times 8^4 + 1 \times 8^3 + 0 \times 8^2 + 0 \times 8^1 + 1 \times 8^0 =$$
$$32 + 16 + 8 + 0 + 0 + 1 = (57)_{10}$$

$$3 \times 16^1 + 9 \times 16^0 = 48 + 9 = (57)_{10}$$

$(AB)_{16}$

$$\begin{array}{r} A\ B \\ (1010\ 1011)_2 \end{array} \quad \begin{array}{r} 10101011 \\ (2\ 5\ 3)_8 \end{array}$$

$$1 \times 2^7 + 0 \times 2^6 + 1 \times 2^5 + 0 \times 2^4 + 1 \times 2^3 + 0 \times 2^2 + 1 \times 2^1 + 1 \times 2^0 =$$
$$128 + 0 + 32 + 0 + 8 + 0 + 2 + 1 = (171)_{10}$$

$$2 \times 8^2 + 5 \times 8^1 + 3 \times 8^0 =$$
$$128 + 40 + 3 = (171)_{10}$$