

2019 02 08 신동훈

1.

(a)  $(365)_r = (194)_{10}$

$$3r^2 + 6r = 189$$

$$3r(r+2) = 189$$

$$r^2 + 2r - 63 = 0$$

$$(r+9)(r-7) = 0$$

$$\therefore r = 7$$

(b)  $(BEE)_r = (2699)_{10}$

$$11r^2 + 14r + 14 = 2699$$

$$11r^2 + 14r - 2685 = 0$$

$$(11r+11)(r-15) = 0$$

$$\therefore r = 15$$

2. (a)  $10.75_{10} = 10 + 0.75$  이다.

10을 2진수로 변환  $\Rightarrow$  
$$\begin{array}{r} 2 \overline{) 10} \\ \underline{2 \cdot 5} \\ 0 \end{array} \Rightarrow 1010_2$$

0.75를 2진수로 변환  $\Rightarrow$  
$$\begin{array}{r} 0.75 \\ \times 2 \\ \hline (1).50 \\ \times 2 \\ \hline (1).0 \end{array} \Rightarrow 0.11_2$$

$\Rightarrow$  따라서  $1010.11_2$

(b)  $1.875_{10} = 1 + 0.875$  이다.

1을 2진수로 변환  $\Rightarrow 1_2$

0.875를 2진수로 변환  $\Rightarrow$  
$$\begin{array}{r} 0.875 \\ \times 2 \\ \hline (1).750 \\ \times 2 \\ \hline (1).500 \\ \times 2 \\ \hline (1).0 \end{array} \Rightarrow 0.111_2$$

$\Rightarrow$  따라서  $1.111_2$

3. (a)  $57_{16} + 95_{16} = 154_{16}$

$$\Rightarrow \begin{array}{r} 57 \\ 95 \\ \hline 154 \end{array}$$

(b)  $0.524_6 + 1.333_6 = 2.301_6$

$$\Rightarrow \begin{array}{r} 0.524 \\ 1.333 \\ \hline 2.301 \end{array}$$

(c)  $AB7_{16} + 999_{16} = 1450_{16}$

$$\Rightarrow \begin{array}{r} AB7 \\ 999 \\ \hline 1450 \end{array}$$