

$$1) y = 30$$

$$2) x = 86$$

$$3) y_{10} \rightarrow y_2$$

$$\begin{array}{r} 30 \overline{) 2} \\ 30 \overline{) 15} \quad 2 \\ 0 \quad 15 \overline{) 2} \\ \quad 15 \overline{) 2} \quad 1 \\ \quad \quad 15 \overline{) 2} \quad 1 \\ \quad \quad \quad 15 \overline{) 2} \quad 1 \\ \quad \quad \quad \quad 15 \overline{) 2} \quad 1 \end{array}$$

$$y_2 = 11110$$

$$4) x_{10} \rightarrow x_2$$

$$\begin{array}{r} 86 \overline{) 2} \\ 86 \overline{) 43} \quad 2 \\ 0 \quad 43 \overline{) 2} \quad 1 \\ \quad 43 \overline{) 2} \quad 1 \\ \quad \quad 43 \overline{) 2} \quad 1 \\ \quad \quad \quad 43 \overline{) 2} \quad 1 \\ \quad \quad \quad \quad 43 \overline{) 2} \quad 1 \end{array}$$

$$x_2 = 1010110$$

$$5) x_2 + y_2 = z_2$$

$$\begin{array}{r} 1010110 \\ + 11110 \\ \hline 1110100 \end{array}$$

$$z_2 = 1110100$$

$$6) x_2 - y_2 = z_2$$

$$\begin{array}{r} 1010110 \\ - 11110 \\ \hline 1110000 \end{array}$$

$$z_2 = 1110000$$

$$7) x_2 : y_2$$

$$\begin{array}{r} 1010110 \overline{) 11110} \\ - 11110 \\ \hline 11010 \end{array}$$

8) $x_2 \cdot y_2$

[illegible]

g) $k = 53$

10) $k_{10} \rightarrow k_{16}$

$$15_{10} = 35$$

$$\begin{array}{r|l} 53 & 16 \\ -48 & 3 \\ \hline & 5 \end{array}$$