

$$1. \text{NOT} \cdot 00110110 \rightarrow 11001001$$

$$2. \text{NOR} \rightarrow \begin{array}{r} 00111001 \\ 10011001 \\ \hline \end{array}$$

$$\text{OR} \rightarrow 10111001 \rightarrow \text{NOR} = 01000110$$

$$3. \text{XOR} \rightarrow \begin{array}{r} 00111001 \\ 10011100 \\ \hline 10100101 \end{array}$$

$$4. \text{AND} \rightarrow \begin{array}{r} 00111001 \\ 10011101 \\ \hline 00011001 \end{array}$$

$$5. \text{OR} \rightarrow \begin{array}{r} 10100101 \\ 11000011 \\ \hline 11100111 \end{array}$$

$$6. \begin{array}{r} 00111001 \\ 10011001 \\ \hline 10111001 \end{array} \text{ OR}$$

$$7. \begin{array}{r} 10100101 \\ 11000011 \\ \hline 10000001 \end{array} \text{ AND}$$

$$\begin{array}{r}
 8. \ 01010110 \\
 + 01100101 \\
 \hline
 10111011
 \end{array}$$

$$\begin{array}{r}
 9. \ 10000100 \\
 + 00111110 \\
 \hline
 11000010
 \end{array}$$

$$\begin{array}{r}
 10. \ 11000110 \\
 + 00110110 \\
 \hline
 \underbrace{1111100}_{1001100}
 \end{array}$$

$$01100010 = 1011 + 1001101 + 10$$

$$\begin{array}{r}
 1001100 + 101 \\
 0011001 \\
 \hline
 10100101
 \end{array}$$

$$\begin{array}{r}
 1001100 + 101 \\
 1011001 \\
 \hline
 1001100
 \end{array}$$

$$\begin{array}{r}
 1. \quad 56 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 28 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 14 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 7 \quad \begin{array}{l} \text{L2} \\ 1, \end{array} 3 \quad \begin{array}{l} \text{L2} \\ 1, \end{array} 1
 \end{array}$$

$$56 = 111000 \rightarrow 00111000$$

$$Ca_1 = \cancel{000111} \\ \rightarrow 11000111$$

$$\begin{array}{r}
 2. \quad 112 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 56 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 28 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 14 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 7 \quad \begin{array}{l} \text{L2} \\ 1, \end{array} 3 \quad \begin{array}{l} \text{L2} \\ 1, \end{array} 1
 \end{array}$$

$$112 = 01110000$$

$$Ca_1 = 10001111$$

$$\begin{array}{r}
 3. \quad 64 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 32 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 16 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 8 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 4 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 2 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 1
 \end{array}$$

$$64 = 01000000$$

$$Ca_1 = 10111111$$

$$\begin{array}{r}
 4. \quad 99 \quad \begin{array}{l} \text{L2} \\ 1, \end{array} 49 \quad \begin{array}{l} \text{L2} \\ 1, \end{array} 24 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 12 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 6 \quad \begin{array}{l} \text{L2} \\ 0, \end{array} 3 \quad \begin{array}{l} \text{L2} \\ 1, \end{array} 1
 \end{array}$$

$$99 = 01100011$$

$$Ca_1 = 10011100$$

5. $87 \begin{array}{l} \underline{L2} \\ 1, 43 \end{array} \begin{array}{l} \underline{L2} \\ 1, 21 \end{array} \begin{array}{l} \underline{L2} \\ 1, 10 \end{array} \begin{array}{l} \underline{L2} \\ 0, 5 \end{array} \begin{array}{l} \underline{L2} \\ 1, 2 \end{array} \begin{array}{l} \underline{L2} \\ 0, 1 \end{array}$

$87 = 01010111$

$Ca_2 = 10101001$

6. $21 \begin{array}{l} \underline{L2} \\ 1, 10 \end{array} \begin{array}{l} \underline{L2} \\ 0, 5 \end{array} \begin{array}{l} \underline{L2} \\ 1, 2 \end{array} \begin{array}{l} \underline{L2} \\ 0, 1 \end{array}$

$21 = 00010101$

$Ca_2 = 11101011$

7. $100 \begin{array}{l} \underline{L2} \\ 0, 50 \end{array} \begin{array}{l} \underline{L2} \\ 0, 25 \end{array} \begin{array}{l} \underline{L2} \\ 1, 12 \end{array} \begin{array}{l} \underline{L2} \\ 0, 6 \end{array} \begin{array}{l} \underline{L2} \\ 0, 3 \end{array} \begin{array}{l} \underline{L2} \\ 1, 1 \end{array}$

$100 = 01100100$

$Ca_2 = 10011100$

8. $28 \begin{array}{l} \underline{L2} \\ 0, 14 \end{array} \begin{array}{l} \underline{L2} \\ 0, 7 \end{array} \begin{array}{l} \underline{L2} \\ 1, 3 \end{array} \begin{array}{l} \underline{L2} \\ 1, 1 \end{array}$

$28 = 00011100$

$Ca_2 = 11100100$

1. 46 GB

$$\hookrightarrow 1 \text{ GB} = 1024 \cdot 1024 \cdot 1024 = 1.073.741.824 \text{ Bytes}$$

↓

$$46 = 46 \cdot 1024 \cdot 1024 \cdot 1024 = 49.392.123.904 \text{ bytes}$$

2. 25 MB

$$\hookrightarrow 1 \text{ MB} = 1024 \cdot 1024 = 1.048.576 \text{ Bytes}$$

↓

$$25 = 25 \cdot 1024 \cdot 1024 = 26.214.400 \text{ Bytes}$$

$$\text{Bytes} \cdot 8 = \text{Bit}$$

$$\hookrightarrow 26.214.400 \cdot 8 = 209.715.200 \text{ bits}$$

3. 95'S GFlops = 95.5 000 000 000

$$1/95.500.000.000 \approx 1.05 \cdot 10^{-11} \text{ segundos}$$

↓

$$1.05 \cdot 10^{-11} \cdot 1000.000.000 = 0.0105 \text{ ns}$$

4.- Conex = 65 Mb/s

$$\hookrightarrow 65 \cdot 1000 \cdot 1000 = 65.000.000 \text{ bits/s}$$

$$\text{que es } 65.000.000 / 8 = 8.125.000 \text{ bytes/s}$$

$$5,4 \text{ gb fich} = 5 \cdot 4 \cdot 1024 \cdot 1024 \cdot 1024 = 5.798.205.849,6 \text{ bytes}$$

$$\text{Tiempo} = 5.798.205.849,6 / 8.125.000 = 713,63 \text{ segundos}$$