

Semana 35

1 $1_{10} =$

$$\begin{array}{r} 2 \overline{) 1} \\ 0 \\ \hline 1 \end{array}$$

$$(1 \times 2^0) = \underline{1}_2$$

2 2_{10}

$$\begin{array}{r} 2 \overline{) 2} \\ 2 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 2 \overline{) 1} \\ 0 \\ \hline 1 \end{array}$$

$$10_2 = (0 \times 2^0) + (1 \times 2^1) = \underline{2}$$

3 $3_{10} = 11_2$

$$\begin{array}{r} 2 \overline{) 3} \\ 2 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 2 \overline{) 1} \\ 0 \\ \hline 1 \end{array}$$

$$11 = (1 \times 2^0) + (1 \times 2^1) = 3$$

4 $4_{10} = 100_2$

$$\begin{array}{r} 2 \overline{) 4} \\ 4 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 2 \overline{) 2} \\ 2 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 2 \overline{) 1} \\ 0 \\ \hline 1 \end{array}$$

$$(0 \times 2^0) + (0 \times 2^1) + (1 \times 2^2) = \underline{4}_{10}$$

5) $5_{10} = 101_2$

$$\begin{array}{r} 2 \overline{) 5} \\ \underline{4} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(1 \times 2^0) + (0 \times 2^1) + (1 \times 2^2) = 5_{10}$$

$$1 + 0 + 4$$

6) $6_{10} = 110_2$

$$\begin{array}{r} 2 \overline{) 6} \\ \underline{6} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(0 \times 2^0) + (1 \times 2^1) + (1 \times 2^2) = 6_{10}$$

$$0 + 2 + 4$$

7) $7_{10} = 111_2$

$$\begin{array}{r} 2 \overline{) 7} \\ \underline{6} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(1 \times 2^0) + (1 \times 2^1) + (1 \times 2^2) = 7_{10}$$

$$1 + 2 + 4$$

8) $8_{10} = 1000_2$

$$\begin{array}{r} 2 \overline{) 8} \\ \underline{8} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 4} \\ \underline{4} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

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

$$0 + 0 + 0 + 8$$

9) $9_{10} = 1001_2$

$$\begin{array}{r} 2 \overline{) 9} \\ \underline{8} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 4} \\ \underline{4} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(1 \times 2^0) + (0 \times 2^1) + (0 \times 2^2) + (1 \times 2^3) = 9_{10}$$

$$1 + 0 + 0 + 8$$

10) $10_{10} = 1010_2$

$$\begin{array}{r} 2 \overline{) 10} \\ \underline{10} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 5} \\ \underline{4} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(0 \times 2^0) + (1 \times 2^1) + (0 \times 2^2) + (1 \times 2^3) = 10_{10}$$

$$0 + 2 + 0 + 8$$

11) $11_{10} = 1011_2$

$$\begin{array}{r} 2 \overline{) 11} \\ \underline{10} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 5} \\ \underline{4} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(1 \times 2^0) + (1 \times 2^1) + (0 \times 2^2) + (1 \times 2^3) = 11_{10}$$

$$1 + 2 + 0 + 8$$

12) $12_{10} = 1100_2$

$$\begin{array}{r} 2 \overline{) 12} \\ \underline{12} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 6} \\ \underline{6} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(0 \times 2^0) + (0 \times 2^1) + (1 \times 2^2) + (1 \times 2^3) = 12_{10}$$

$$0 + 0 + 4 + 8$$

13) $13_{10} = 1101_2$

$$\begin{array}{r} 2 \overline{) 13} \\ \underline{12} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 6} \\ \underline{6} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$(1 \times 2^0) (0 \times 2^1) (1 \times 2^2) (1 \times 2^3) = 13_{10}$

14) $14_{10} = 1110_2$

$$\begin{array}{r} 2 \overline{) 14} \\ \underline{14} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 7} \\ \underline{6} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$(0 \times 2^0) (1 \times 2^1) (1 \times 2^2) (1 \times 2^3) = 14_{10}$

15) $15_{10} = 1111_2$

$$\begin{array}{r} 2 \overline{) 15} \\ \underline{14} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 7} \\ \underline{6} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$(1 \times 2^0) (1 \times 2^1) (1 \times 2^2) (1 \times 2^3) = 15_{10}$

16) $16_{10} = 10000_2$

$$\begin{array}{r} 2 \overline{) 16} \\ \underline{16} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 8} \\ \underline{8} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 4} \\ \underline{4} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$(0 \times 2^0) (0 \times 2^1) (0 \times 2^2) (0 \times 2^3) (1 \times 2^4) = 16_{10}$

17) $17_{10} = 10001_2$

$$\begin{array}{r} 2 \overline{) 17} \\ \underline{16} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 8} \\ \underline{8} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 4} \\ \underline{4} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$(1 \times 2^0) (0 \times 2^1) (0 \times 2^2) (0 \times 2^3) (1 \times 2^4) = 17_{10}$

18) $18_{10} = 10010_2$

$$\begin{array}{r} 2 \overline{) 18} \\ \underline{18} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 9} \\ \underline{8} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 4} \\ \underline{4} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$(1 \times 2^0) (0 \times 2^1) (0 \times 2^2) (1 \times 2^3) (0 \times 2^4) = 18_{10}$

19) $19_{10} = 10011_2$

$$\begin{array}{r} 2 \overline{) 19} \\ \underline{18} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 9} \\ \underline{8} \\ 1 \end{array} \quad \begin{array}{r} 2 \overline{) 4} \\ \underline{4} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$(1 \times 2^0) (0 \times 2^1) (0 \times 2^2) (1 \times 2^3) (1 \times 2^4) = 19_{10}$

20) $20_{10} = 10100_2$

$$\begin{array}{r} 10 \\ 2 \overline{) 20} \\ \underline{20} \\ 0 \end{array} \quad \begin{array}{r} 5 \\ 2 \overline{) 10} \\ \underline{10} \\ 0 \end{array} \quad \begin{array}{r} 2 \\ 2 \overline{) 5} \\ \underline{4} \\ 1 \end{array} \quad \begin{array}{r} 1 \\ 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 0 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(0 \times 2^0) (0 \times 2^1) (1 \times 2^2) (0 \times 2^3) (1 \times 2^4)$$

0 0 4 0 16

21) $21_{10} = 10101_2$

$$\begin{array}{r} 10 \\ 2 \overline{) 21} \\ \underline{20} \\ 1 \end{array} \quad \begin{array}{r} 5 \\ 2 \overline{) 10} \\ \underline{10} \\ 0 \end{array} \quad \begin{array}{r} 2 \\ 2 \overline{) 5} \\ \underline{4} \\ 1 \end{array} \quad \begin{array}{r} 1 \\ 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 0 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(1 \times 2^0) (0 \times 2^1) (1 \times 2^2) (0 \times 2^3) (1 \times 2^4) = 21$$

1 0 4 0 16

22) $22_{10} = 10110_2$

$$\begin{array}{r} 11 \\ 2 \overline{) 22} \\ \underline{22} \\ 0 \end{array} \quad \begin{array}{r} 5 \\ 2 \overline{) 11} \\ \underline{10} \\ 1 \end{array} \quad \begin{array}{r} 2 \\ 2 \overline{) 5} \\ \underline{4} \\ 1 \end{array} \quad \begin{array}{r} 1 \\ 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array} \quad \begin{array}{r} 0 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(1 \times 2^0) (0 \times 2^1) (1 \times 2^2) (1 \times 2^3) (0 \times 2^4)$$

22₁₀ 0 0 4 8 16

23) $23_{10} = 10111_2$

$$\begin{array}{r} 11 \\ 2 \overline{) 23} \\ \underline{22} \\ 1 \end{array}$$

$$\begin{array}{r} 5 \\ 2 \overline{) 11} \\ \underline{10} \\ 1 \end{array}$$

$$\begin{array}{r} 2 \\ 2 \overline{) 5} \\ \underline{4} \\ 1 \end{array}$$

$$\begin{array}{r} 1 \\ 2 \overline{) 2} \\ \underline{2} \\ 0 \end{array}$$

$$\begin{array}{r} 6 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

(1×2^0) (1×2^1) (1×2^2) (0×2^3) (1×2^4)
 1 2 4 0 $16 = 23$

24) $24_{10} = 11000_2$

$$\begin{array}{r} 12 \\ 2 \overline{) 24} \\ \underline{24} \\ 0 \end{array}$$

$$\begin{array}{r} 6 \\ 2 \overline{) 12} \\ \underline{12} \\ 0 \end{array}$$

$$\begin{array}{r} 3 \\ 2 \overline{) 6} \\ \underline{6} \\ 0 \end{array}$$

$$\begin{array}{r} 1 \\ 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array}$$

$$\begin{array}{r} 0 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

(0×2^0) (0×2^1) (0×2^2) (1×2^3) (1×2^4)
 0 0 0 8 $16 = 24$

25) $25_{10} = 11001_2$

$$\begin{array}{r} 12 \\ 2 \overline{) 25} \\ \underline{24} \\ 1 \end{array}$$

$$\begin{array}{r} 6 \\ 2 \overline{) 12} \\ \underline{12} \\ 0 \end{array}$$

$$\begin{array}{r} 3 \\ 2 \overline{) 6} \\ \underline{6} \\ 0 \end{array}$$

$$\begin{array}{r} 1 \\ 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array}$$

$$\begin{array}{r} 0 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

(1×2^0) (0×2^1) (0×2^2) (1×2^3) (1×2^4)
 1 0 0 8 $16 = 25$

26) $26_{10} = 11010_2$

$$\begin{array}{r} 13 \\ 2 \overline{) 26} \\ \underline{26} \\ 0 \end{array} \quad \begin{array}{r} 6 \\ 2 \overline{) 13} \\ \underline{12} \\ 1 \end{array} \quad \begin{array}{r} 3 \\ 2 \overline{) 6} \\ \underline{6} \\ 0 \end{array} \quad \begin{array}{r} 1 \\ 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array} \quad \begin{array}{r} 6 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(0 \times 2^0) \quad (1 \times 2^1) \quad (0 \times 2^2) \quad (1 \times 2^3) \quad (1 \times 2^4)$$

0 2 0 8 16 = 26

27) $27_{10} = 11011_2$

$$\begin{array}{r} 13 \\ 2 \overline{) 27} \\ \underline{26} \\ 1 \end{array} \quad \begin{array}{r} 6 \\ 2 \overline{) 13} \\ \underline{12} \\ 1 \end{array} \quad \begin{array}{r} 3 \\ 2 \overline{) 6} \\ \underline{6} \\ 0 \end{array} \quad \begin{array}{r} 1 \\ 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array} \quad \begin{array}{r} 6 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(1 \times 2^0) \quad (1 \times 2^1) \quad (0 \times 2^2) \quad (1 \times 2^3) \quad (1 \times 2^4)$$

1 2 0 8 16 = 27

28) $28_{10} = 11100_2$

$$\begin{array}{r} 14 \\ 2 \overline{) 28} \\ \underline{28} \\ 0 \end{array} \quad \begin{array}{r} 7 \\ 2 \overline{) 14} \\ \underline{14} \\ 0 \end{array} \quad \begin{array}{r} 3 \\ 2 \overline{) 7} \\ \underline{6} \\ 1 \end{array} \quad \begin{array}{r} 1 \\ 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array} \quad \begin{array}{r} 6 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$(0 \times 2^0) \quad (0 \times 2^1) \quad (1 \times 2^2) \quad (1 \times 2^3) \quad (1 \times 2^4)$$

0 0 4 8 16 = 28

30)

29)

$$29_{10} = 11101_2$$

$$\begin{array}{r} 14 \\ 2 \overline{) 29} \\ \underline{28} \\ 1 \end{array}$$

$$\begin{array}{r} 7 \\ 2 \overline{) 14} \\ \underline{14} \\ 0 \end{array}$$

$$\begin{array}{r} 3 \\ 2 \overline{) 7} \\ \underline{6} \\ 1 \end{array}$$

$$\begin{array}{r} 1 \\ 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array}$$

$$\begin{array}{r} 0 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$\begin{array}{ccccc} (1 \times 2^0) & (0 \times 2^1) & (1 \times 2^2) & (1 \times 2^3) & (1 \times 2^4) \\ 1 & 0 & 4 & 8 & 16 = 29 \end{array}$$

30)

$$30_{10} = 11110_2$$

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

$$\begin{array}{r} 7 \\ 2 \overline{) 15} \\ \underline{14} \\ 1 \end{array}$$

$$\begin{array}{r} 3 \\ 2 \overline{) 7} \\ \underline{6} \\ 1 \end{array}$$

$$\begin{array}{r} 1 \\ 2 \overline{) 3} \\ \underline{2} \\ 1 \end{array}$$

$$\begin{array}{r} 0 \\ 2 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

$$\begin{array}{ccccc} (0 \times 2^0) & (1 \times 2^1) & (1 \times 2^2) & (1 \times 2^3) & (1 \times 2^4) \\ 0 & 2 & 4 & 8 & 16 = 30 \end{array}$$