BLOQUE II:

16) $\overline{ab}\,\overline{ab}$ tiene 6 DIV. $= 2 \cdot 3 = (1+1)(2+1)$

$\overline{ab00} + \overline{ab}$

$100 \cdot \overline{ab} + \overline{ab}$

$101 \cdot \overline{ab} = x^{1} \cdot y^{2}$

PRIMO — PRIMOS

$\therefore x = 101$

$\therefore \overline{ab} = y^{2}$

$25 = 5^{2}$

$49 = 7^{2}$

17) $N = 128 \cdot a \cdot b$

$= 2^{7} \cdot a^{1} \cdot b^{1} \rightarrow$ D.C

PRIMOS

$\therefore \frac{2^{7+1}-1}{2-1} \times \frac{a^{1+1}-1}{a-1} \times \frac{b^{1+1}-1}{b-1} = \frac{85}{28} \cdot 2^{7} \cdot a \cdot b$

$\frac{\cancel{255}^{3\cdot 51}}{} \cdot \frac{a^{2}-1}{a-1} \cdot \frac{b^{2}-1}{b-1} = \frac{\cancel{85}^{17}}{\cancel{28}^{7}} \cdot \cancel{128}^{32} \cdot a \cdot b$

$(a+1)(b+1) = \frac{32}{21} \cdot a \cdot b$

$\frac{(a^{8}+1)(b^{4}+1)}{a \cdot b} = \frac{32}{21}$

$7 \cdot 3$

CÁNG

DANG

18) $N = 30^a$; $SD_{\text{PARES}} = 2 \cdot SD\left(\frac{N}{2}\right)$

$\therefore N = 2^{②} \cdot 3^{②} \cdot 5^{②}$

$\frac{N}{2} = \frac{2^a \cdot 3^a \cdot 5^a}{2}$

$= 2^{a-1} \cdot 3^a \cdot 5^a$

$\underbrace{2418}_{\text{2}} = 2 \cdot \frac{2^a - 1}{1} \cdot \frac{3^{a+1} - 1}{2} \cdot \frac{5^{a+1} - 1}{4}$

$2 \cdot 3 \cdot 31 \cdot 13 \cdot 4 = \left(2^{a-2} - 1\right)\left(3^{a+1} - 1\right)\left(5^{a+1} - 1\right)$

$3 \cdot 26 \cdot 124$

$\therefore a = 2$

$CD_N = 1 + \underbrace{C.D_{PRIM} + C.D_{COMP}}_{C.D_{SIMPLES}}$

$\underbrace{3 \cdot 3 \cdot 3}_{27} = 1 + 3 + C.D_{COMP}$

$23 = C.D_{COMP}$

2418	2
1209	3
403	31
13	

BLOQUE II:

19) $M = 20^{x} \cdot 30^{x+2}$ TIENE 48 DIV 5

$= 2^{2x} \cdot 5^{x} \cdot 2^{x+2} \cdot 3^{x+2} \cdot 5^{x+2}$ IMPARES.

$= 2^{3x+2} \cdot 3^{x+2} \cdot 5^{2x+2}$

$\therefore 3^{x+2} \cdot 5^{2x+1} \rightarrow CD = (x+3)(2x+2)$

$48 \qquad 2(x+1)$

$24 = (x+3)(x+1)$

$6 \cdot 4$

$N \rightarrow 24$ DIV. $= 6 \cdot 4 \rightarrow N = x^5 \cdot y^3$

$8 \cdot 3 \rightarrow N = x^7 \cdot y^2$

$12 \cdot 2 \quad N = x^{11} \cdot y^1$

$3N \rightarrow 30$ DIV. $2 \cdot 3 \cdot 4 \quad N = x^1 \cdot y^2 \cdot z^3$

$\therefore 3 \cdot x^5 \cdot y^3 = x^5 \cdot 3^4$

3

$CD = 6 \cdot 5 = 30$ ✓

$\therefore 3 \cdot x^1 \cdot y^2 \cdot z^3 = x^1 \cdot y^2 \cdot z^4$

3

$CD = 2 \cdot 3 \cdot 5 = 30$ ✓

$\therefore 3(x^5 \cdot y^3)^2 = 3 \cdot x^{10} \cdot y^6 = x^{10} \cdot y^7$

$3(x \cdot y^2 \cdot z^3)^2 = 3 \cdot x^2 \cdot y^4 \cdot z^6 = x^2 \cdot y^4 \cdot z^7$

3

21) $A - B = 44$; $MCM - MCD = 500$

$K\alpha - K\cdot\beta$

$K(\alpha - \beta) = 44$; $K\cdot\alpha\cdot\beta - K$

$4 \cdot 11$ $\qquad K(\alpha\beta - 1) = 500$

; $MCD(A,B) = K$

$\therefore A = K\cdot\alpha$

$B = K\cdot\beta$ } P.E.SI $\Rightarrow MCM(A,B) = K\cdot\alpha\cdot\beta$

$$\therefore \frac{K(\alpha\beta - 1)}{K(\alpha - \beta)} = \frac{500}{44} \quad \begin{matrix}125\\11\end{matrix}$$

$$\frac{\alpha\beta - 1}{\alpha - \beta} = \frac{125}{11}$$

$\alpha\cdot\beta = 126$; $\alpha - \beta = 11$

$18 \cdot 7$ $\qquad 18 - 7$

126	2
63	3
21	3
7	7
1	

$\} 18$

$\therefore A = 4(18) = 72$

$\therefore B = 4(7) = 28$ ✓

BLOQUE II:

22) $MCM^2 = MCD^3$; $A+B=180$

$K^2 \cdot \alpha^2 \cdot \beta^2 = K^3$

$3^2 \cdot 2^2 = \alpha^2 \cdot \beta^2 = K$

36.

180	2
90	2
45	3
15	3
5	5
1	

$K\alpha + K\beta = 180$

$K(\alpha+\beta) = 180$

$\alpha^2 \cdot \beta^2 (\alpha+\beta) = 180.$

$3^2 \cdot 2^2 \cdot 5$

$\alpha = 3$

$\beta = 2$

23) MCD.

5068 - 3388 - 4032 | 2
2534 - 1694 - 2016 | 2
1267 - 847 - 1008 | 7
181 - 121 - 144

} x

28.

Precio entrada : div 28

1
2
4
7
14

$10 < 14 < 20$

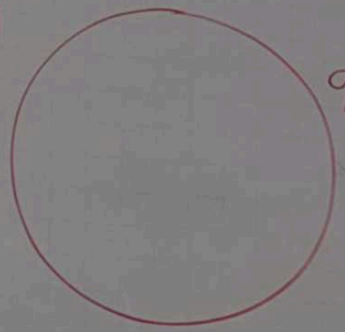
28.

N°PER: $\frac{5068+3388+4032}{14}$

: 892.

TOSCANG

24)



$V_A = 9\,m/s \longrightarrow t_A = 10\,s$

$V_B = 5\,m/s \longrightarrow t_B = 18\,s$

$V_C = 3\,m/s \longrightarrow t_C = 30\,s$

$MCM(10, 18, 30) = 90\,s$

BLOQUE III

25) $N = 2^{\alpha} \cdot 5^{\beta} \cdot 3$ tiene 16 DIV 15

$$\frac{N}{15} = \frac{2^{\alpha} \cdot 5^{\beta} \cdot 3}{5 \cdot 3} = \underbrace{2^{\alpha} \cdot 5^{\beta-1}}$$

$CD = (\alpha+1)(\beta) = 16$

" 16 DIV 20

$$\frac{N}{20} = \frac{2^{\alpha} \cdot 5^{\beta} \cdot 3}{2^2 \cdot 5} = \underbrace{2^{\alpha-2} \cdot 5^{\beta-1} \cdot 3}$$

$CD = (\alpha-1)(\beta)(2) = 16$

$(\alpha-1)\beta = 8$

$\therefore N = 2^3 \cdot 5^4 \cdot 3$

$= (2^3 \cdot 5)^3 \cdot 5 \cdot 3$

$CD = 2 \cdot 2 = 4$

27) 31! tiene n DIV.

¿ 32!

31|2
15|2
7|2
3|2
1

+

$\rightarrow 31! = \ldots 2^{26} \cdot 2^{c} \ldots$

$CD = \frac{(26+1)(b+1)(c+1)\ldots}{27} = n$

$32! = \ldots 2^{26} \ldots \ldots 32$

$2^{31} \qquad 2^{5}$

$CD = (31+1)\left(\frac{n}{27}\right) =$

$12 = 2^2 \cdot 3^1$

$$SD_N = \frac{2^{2+1} - 1}{2-1} \times \frac{3^{1+1} - 1}{3-1}$$

$$= \frac{7}{1} \times \frac{8}{2} = 7 \times 4 = 28.$$

$12 = 2^{(2)} \cdot 3^{(1)} \rightarrow D \cdot C$

PRIMOS.

$\therefore C \cdot D = (2+1)(1+1)$

$3 \cdot 2 = 6$