

① Parte enteras
(1 Num)

610_{10}

$$\begin{array}{r} 305 \\ \times 2 \\ \hline 152 \end{array}$$

$$\begin{array}{r} 10 \\ 76 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 10 \\ 32 \\ \hline 99 \end{array}$$

$$\begin{array}{r} 10 \\ 19 \\ \hline 9 \end{array}$$

② 610_d

$$Co2 = 547 \rightarrow P_{100} \text{ a } 610$$

y agrego

MSB con

el signo

$$610_d \xrightarrow{bin} 1001100010_b$$

$$\begin{array}{r} 10 \\ 2 \\ \hline 1 \end{array}$$

$$+ 610_d \xrightarrow{Co2} 0,1001100010_b$$

③

② Parte fraccionaria: $0,94140625 \xrightarrow{bin} ?$
(1 Num)

$$0,94140625 \times 2 = \boxed{1},8828125$$

$$0,8828125 \times 2 = \boxed{0},765625$$

$$0,765625 \times 2 = \boxed{1},53125$$

$$0,53125 \times 2 = \boxed{1},0625$$

$$0,0625 \times 2 = \boxed{0},125$$

$$0,125 \times 2 = \boxed{0},25$$

$$0,25 \times 2 = \boxed{0},5$$

$$0,5 \times 2 = \boxed{1},0$$

$$0,94140625 = 11110001_b \rightarrow P_{frac}$$

$$③ 610,94140625_d = 01001100010,11110001_b$$

$$-610,94140625_d \xrightarrow{bin Co2} \overbrace{\text{Co2 a esto } (f1/p + 1 e son 0 1)}$$

$$④ | Num = 01001100010,11110001_b \quad f_{1,0}$$

$$Co2 Num = 10110011101,00001110$$

$$Co2 Num = 10110011101,00001111 + 1$$

$$P_{f1A} = -610,94140625_d = 10110011101,00001111_b (Co2)$$

② idem al anterior, pero con un byte. 6 dígitos para la parte entera (incluyendo el bit de signo) + dos dígitos fraccionarios. TRUNCAR solamente

$$\boxed{2,77,7d} \xrightarrow{\text{A bin:}}$$

$$\begin{array}{r} 2,77,7d \\ \hline \end{array}$$

① Parte entera: $\boxed{2,7d} \xrightarrow{\text{bin Car2}} \text{como S+M}$

$$\begin{array}{r} 2,7d \\ \hline 13 \quad 12 \\ 1 \quad 6 \quad 12 \\ \hline 10 \quad 3 \quad 12 \\ 1 \quad 1 \quad 12 \\ \hline 0 \end{array}$$

$$2,7d = 11011_6$$

$$2,7d = 011011_6 \text{ (Car2 6 bits)}$$

② Parte decimal: $0,77 \xrightarrow{\text{6 bits}}$

$$0,77 \times 2 = \boxed{1} +$$

$$0,77 \xrightarrow{N} 0,106$$

$$0,106 \times 2 = \boxed{0},8$$

↓
No sirve

ya que
solo tengo

2 bits para

esta parte

y solo tengo

que truncar

③ Uno las dos partes: $2,77,7d \xrightarrow{N} 011011,106 = 2,75$
 Aprox. ① ②

Rta: $011011,106 \approx 2,77,7d$

Car2; 6 bits ent;

2 bits frac

2. b) $-19,04 \xrightarrow{6 \text{ bits ent}, 2 \text{ bits frac}}$

$$|-19,04| = +19,04$$

↓ ↓
① ②

① P entera: $19 \xrightarrow{\text{Co2}}$

$$\begin{array}{r} 19_{\text{d2}} \\ \times 2 \\ \hline 1 \quad 1 \\ 1 \quad 0 \\ \hline 0 \quad 2 \\ 1 \quad 1 \quad 0 \end{array}$$

$$19_d = 100111_6 \quad (\text{Co2})$$

↓
⊕

② P fracc: $0,04 \xrightarrow{\text{Co2}}$

$$\text{Q d2} = 0,04 \times 2 = \boxed{0},08$$

$$0,08 \times 2 = \boxed{0},16$$

\hookrightarrow Tengo 2 bits y solo trunco, no signo

$$0,04 \approx 0,008 = 0_d$$

③ Mod de mi numero \rightarrow Uno las dos partes

$$+19,04 \approx 010011,006 = 19_d$$

Co2 a esto $\rightarrow -19,04$

$$\begin{array}{r} 010011,00 \text{ flip} \\ 101100 \text{ flip} \\ \hline 101101,11 \end{array} \quad \boxed{\text{Pto: } -19,04_d = 101101,11_6 \quad (\text{Co2})}$$

2 bits frac
6 bits ent

④ Idem al anterior pero redondeando y truncando

⑤ ~~⊕ 29,4~~ ① Parte Entera: $02,9 \xrightarrow{6 \text{ Co2} = 511}$

① ②

$$\begin{array}{r} 2,9 \times 2 \\ \hline 1 \quad 1 \\ 1 \quad 0 \\ \hline 1 \quad 1 \\ 1 \quad 0 \\ \hline 1 \quad 0 \end{array} \quad 29_d = 111016$$

$\oplus 29_d = 0111016 \quad (\text{Co2})$

(II) Parte fraccionaria: $0,4_d \xrightarrow{6\text{ bits}}$; (bits + redondeo y truncado.)

$$0,4_d \times 2 = \boxed{0,8_d}$$

$$0,8_d \times 2 = \boxed{1,6_d}$$

$$0,6_d \times 2 = \boxed{1,2_d}$$

$0,4 \approx 0,0110_2$ → redondeo (sumo 1 al bit siguiente del que corto)

$0,4 \approx 0,100_2$ → truncó ("cortó")

	Truncó	redondeo y truncó
$0,4$	$0,101$	$0,10$
$0,4$	<u>$0,25$</u>	$0,5$

$0,4 \approx 0,106$

Más cerca de $0,4$ que $0,25$;
(más preciso)

(III) $+29,4 = 011101,106 + R_{10} B_2$

$R_{10} + 1,6$ bits ent.

2. bits frac

(3B) $-19,39872_d \xrightarrow{\text{6 bits (cal)}} \xrightarrow{\text{6 bits ent}} \xrightarrow{\text{2 bits frac}}$

$$1 - 19,39872_d = 19,39872_d \xrightarrow{+6\text{ bits}} \textcircled{1} \underbrace{19,39872_d}_{\textcircled{1}} \xrightarrow{\text{6 bits}}$$

① Primera: $\textcircled{1} 19_d \xrightarrow{\text{Co2}} \textcircled{1} 19_d$
 \downarrow
 $\text{Co2} = 54_m$

$$\begin{array}{r} 19_d \\ \underline{- 19_d} \\ 0 \end{array} \quad \begin{array}{r} 22 \\ 22 \\ \underline{- 22} \\ 0 \end{array} \quad \begin{array}{r} 2 \\ 2 \\ \underline{- 2} \\ 0 \end{array}$$

$$19_d = 10011_2$$

$$\textcircled{1} 19_d = 010011_2 (\text{Co2})$$

(II) P fractionarne: $0,39872 \xrightarrow{6,7}$

$$0,39872 \times 2 = \boxed{0,79744}$$

$$0,79744 \times 2 = \boxed{1},59488$$

$$0,59488 \times 2 = \boxed{1} 18976$$

9,39872d^N 9,0116

red y truncos 0,0116

$$+ 0.0116 \overline{1}$$

0,39872 N 0,1010

III Modulo de un numero \rightarrow ⑦⑪ \rightarrow 01011, -10 \approx 19, 39872
Kaz \approx -19, 39872

Ca2: 01811, 12 | Ca1 (fl, p)

$$+ \frac{10100,01}{10100,10} + 1 \text{ (Carry 1)}$$

$$B_{TA} = 10100,10 \stackrel{N}{\sim} 19,39872$$

④ Realizar las siguientes operaciones utilizando el Caz para las restas y 12 bits (8 enteros, + fraccionarios). Representar las cifras en binario con el menor error posible.

$$\textcircled{A} \quad \underline{+1,325 - 110,728d} \\ \textcircled{1} \qquad \qquad \qquad \textcircled{1}$$

$$\textcircled{1} \quad \begin{array}{|c|c|}\hline 7 & 1 \\ \hline 1 & 3 \\ \hline \end{array}$$

① $\text{Fe}_3\text{O}_4 \xrightarrow{\text{6in}} \text{C}_{\text{a}2}$

$$\begin{array}{r}
 71 \longdiv{2} \\
 45 \longdiv{35} \longdiv{2} \\
 17 \longdiv{17} \longdiv{2} \\
 10 \longdiv{8} \longdiv{2} \\
 10 \longdiv{4} \longdiv{2} \\
 10 \longdiv{2} \longdiv{2} \\
 10 \longdiv{1} \longdiv{2} \\
 0
 \end{array}$$

F12=1000111_b

$$\oplus 71d = 01000111_6 (\text{Co2})$$

$$\textcircled{1} \quad 71,3_d = 01000111,0101_6 \quad (\text{Ca2})$$

$$\textcircled{2} \quad -110,728 \approx 10010001,0100_6 \quad (\text{Ca2})$$

$$71,3_d - 110,728_d :$$

$$+ 01000111,0101_6 \Rightarrow 71,3_d$$

$$\underline{10010001,0100_6} \rightarrow \textcircled{2} 110,728_d$$

$$\underline{11011000,1001_6} \approx \textcircled{1},3 - 110,728 : R_{TA} \textcircled{4A}$$

$$\textcircled{4B} \quad \underbrace{-96,712_d}_{\textcircled{1}} \quad \underbrace{-21,56_d}_{\textcircled{2}}$$

$$\textcircled{1} \quad -96,712 \xrightarrow{\text{Ca2}} : 1 - 96,712 = \underbrace{96,712}_{\textcircled{1} \quad \textcircled{11}}$$

$$\textcircled{2} \quad 96_d \xrightarrow{\text{Ca2}} : \begin{array}{r} 96 \\ \times 2 \\ \hline 192 \\ \times 2 \\ \hline 384 \\ \times 2 \\ \hline 768 \\ \times 2 \\ \hline 1536 \\ \times 2 \\ \hline 3072 \\ \times 2 \\ \hline 6144 \\ \times 2 \\ \hline 12288 \\ \times 2 \\ \hline 24576 \\ \times 2 \\ \hline 49152 \\ \times 2 \\ \hline 98304 \\ \times 2 \\ \hline 196608 \\ \times 2 \\ \hline 393216 \\ \times 2 \\ \hline 786432 \\ \times 2 \\ \hline 1572864 \\ \times 2 \\ \hline 3145728 \\ \times 2 \\ \hline 6291456 \\ \times 2 \\ \hline 12582912 \\ \times 2 \\ \hline 25165824 \\ \times 2 \\ \hline 50331648 \\ \times 2 \\ \hline 100663296 \\ \times 2 \\ \hline 201326592 \\ \times 2 \\ \hline 402653184 \\ \times 2 \\ \hline 805306368 \\ \times 2 \\ \hline 1610612736 \\ \times 2 \\ \hline 3221225472 \\ \times 2 \\ \hline 6442450944 \\ \times 2 \\ \hline 12884901888 \\ \times 2 \\ \hline 25769803776 \\ \times 2 \\ \hline 51539607552 \\ \times 2 \\ \hline 103079215088 \\ \times 2 \\ \hline 206158430176 \\ \times 2 \\ \hline 412316860352 \\ \times 2 \\ \hline 824633720704 \\ \times 2 \\ \hline 1649267441408 \\ \times 2 \\ \hline 3298534882816 \\ \times 2 \\ \hline 6597069765632 \\ \times 2 \\ \hline 13194139531264 \\ \times 2 \\ \hline 26388279062528 \\ \times 2 \\ \hline 52776558125056 \\ \times 2 \\ \hline 105553116250112 \\ \times 2 \\ \hline 211106232500224 \\ \times 2 \\ \hline 422212465000448 \\ \times 2 \\ \hline 844424930008896 \\ \times 2 \\ \hline 1688849860017792 \\ \times 2 \\ \hline 3377699720035584 \\ \times 2 \\ \hline 6755399440071168 \\ \times 2 \\ \hline 13510798880143344 \\ \times 2 \\ \hline 27021597760286688 \\ \times 2 \\ \hline 54043195520573376 \\ \times 2 \\ \hline 10808639104146672 \\ \times 2 \\ \hline 2161727820829344 \\ \times 2 \\ \hline 4323455641658688 \\ \times 2 \\ \hline 8646911283317376 \\ \times 2 \\ \hline 17293822566634752 \\ \times 2 \\ \hline 34587645133269504 \\ \times 2 \\ \hline 69175290266539008 \\ \times 2 \\ \hline 138350580533078016 \\ \times 2 \\ \hline 276701161066156032 \\ \times 2 \\ \hline 553402322132312064 \\ \times 2 \\ \hline 110680464426624128 \\ \times 2 \\ \hline 221360928853248256 \\ \times 2 \\ \hline 442721857706496512 \\ \times 2 \\ \hline 885443715412992024 \\ \times 2 \\ \hline 1770887430825984048 \\ \times 2 \\ \hline 3541774861651968096 \\ \times 2 \\ \hline 7083549723303936192 \\ \times 2 \\ \hline 14167099446607872384 \\ \times 2 \\ \hline 28334198893215744768 \\ \times 2 \\ \hline 56668397786431489536 \\ \times 2 \\ \hline 113336795572862979072 \\ \times 2 \\ \hline 226673591145725958144 \\ \times 2 \\ \hline 453347182291451916288 \\ \times 2 \\ \hline 906694364582903832576 \\ \times 2 \\ \hline 1813388729165807665152 \\ \times 2 \\ \hline 3626777458331615330304 \\ \times 2 \\ \hline 7253554916663230660608 \\ \times 2 \\ \hline 14507109833326461321216 \\ \times 2 \\ \hline 29014219666652922642432 \\ \times 2 \\ \hline 58028439333305845284864 \\ \times 2 \\ \hline 11605687866661169056928 \\ \times 2 \\ \hline 23211375733322338113856 \\ \times 2 \\ \hline 46422751466644676227712 \\ \times 2 \\ \hline 92845502933289352455424 \\ \times 2 \\ \hline 185691005865786704908848 \\ \times 2 \\ \hline 371382011731573409817696 \\ \times 2 \\ \hline 742764023463146819635392 \\ \times 2 \\ \hline 148552804692629363927088 \\ \times 2 \\ \hline 297105609385258727854176 \\ \times 2 \\ \hline 594211218770517455708352 \\ \times 2 \\ \hline 118842243754103491141664 \\ \times 2 \\ \hline 237684487508206982283328 \\ \times 2 \\ \hline 475368975016413964566656 \\ \times 2 \\ \hline 950737950032827929133312 \\ \times 2 \\ \hline 1901475900065655858266624 \\ \times 2 \\ \hline 3802951800131311716533248 \\ \times 2 \\ \hline 7605903600262623433066496 \\ \times 2 \\ \hline 1521180720052544666613296 \\ \times 2 \\ \hline 3042361440105089333226592 \\ \times 2 \\ \hline 6084722880210178666453184 \\ \times 2 \\ \hline 1216944576042035733290632 \\ \times 2 \\ \hline 2433889152084071466581264 \\ \times 2 \\ \hline 4867778304168142933162528 \\ \times 2 \\ \hline 9735556608336285866325456 \\ \times 2 \\ \hline 1947111321667257173265092 \\ \times 2 \\ \hline 3894222643334514346530184 \\ \times 2 \\ \hline 7788445286669028693060368 \\ \times 2 \\ \hline 15576890573338057386120736 \\ \times 2 \\ \hline 31153781146676114772241472 \\ \times 2 \\ \hline 62307562293352229544482944 \\ \times 2 \\ \hline 12461512458670445908896588 \\ \times 2 \\ \hline 24923024917340891817793176 \\ \times 2 \\ \hline 49846049834681783635586352 \\ \times 2 \\ \hline 99692099669363567271172704 \\ \times 2 \\ \hline 199384199338727134542345408 \\ \times 2 \\ \hline 398768398677454269084690816 \\ \times 2 \\ \hline 797536797354908538169381632 \\ \times 2 \\ \hline 1595073594709817076338632664 \\ \times 2 \\ \hline 3190147189419634152677265328 \\ \times 2 \\ \hline 6380294378839268305354530656 \\ \times 2 \\ \hline 12760588757678536610709061312 \\ \times 2 \\ \hline 25521177515357073221418122624 \\ \times 2 \\ \hline 51042355030714146442836245248 \\ \times 2 \\ \hline 10208471006142829285767249496 \\ \times 2 \\ \hline 20416942012285658571534498992 \\ \times 2 \\ \hline 40833884024571317143068997984 \\ \times 2 \\ \hline 81667768049142634286137995968 \\ \times 2 \\ \hline 163335536098285265722659911936 \\ \times 2 \\ \hline 326671072196570531445319823872 \\ \times 2 \\ \hline 653342144393141062890639647744 \\ \times 2 \\ \hline 1306684288786282125781279295488 \\ \times 2 \\ \hline 2613368577572564251562558590976 \\ \times 2 \\ \hline 5226737155145128503125177181952 \\ \times 2 \\ \hline 1045347430285025700625035436384 \\ \times 2 \\ \hline 2090694860570051401250070872768 \\ \times 2 \\ \hline 4181389721140102802500141745336 \\ \times 2 \\ \hline 8362779442280205605000283490672 \\ \times 2 \\ \hline 1672555888456041121000566891344 \\ \times 2 \\ \hline 3345111776912082242001133782688 \\ \times 2 \\ \hline 6690223553824164484002267565376 \\ \times 2 \\ \hline 13380447107648328968004535130752 \\ \times 2 \\ \hline 26760894215296657936009070261504 \\ \times 2 \\ \hline 53521788430593315872018140523008 \\ \times 2 \\ \hline 107043576861186631744036281046016 \\ \times 2 \\ \hline 214087153722373263488072562092032 \\ \times 2 \\ \hline 428174307444746526976145124184064 \\ \times 2 \\ \hline 856348614889493053952290248368128 \\ \times 2 \\ \hline 1712697229778986107904580496736256 \\ \times 2 \\ \hline 3425394459557972215809160993472512 \\ \times 2 \\ \hline 6850788919115944431618321986945024 \\ \times 2 \\ \hline 1370157783823188886323663977389048 \\ \times 2 \\ \hline 2740315567646377772647327954778096 \\ \times 2 \\ \hline 5480631135292755545294655909556192 \\ \times 2 \\ \hline 1096126227058551109558911909911232 \\ \times 2 \\ \hline 2192252454117052219117823819822464 \\ \times 2 \\ \hline 4384504908234104438235647639644928 \\ \times 2 \\ \hline 8769009816468208876471295279289856 \\ \times 2 \\ \hline 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\times 2 \\ \hline 22987433093259311883234090386470716288 \\ \times 2 \\ \hline 45974866186518623766468180772941432576 \\ \times 2 \\ \hline 91949732373037247532936361545882865152 \\ \times 2 \\ \hline 18389946474607449506587272389176530304 \\ \times 2 \\ \hline 36779892949214899013174544778353060608 \\ \times 2 \\ \hline 73559785898429798026349089556706121216 \\ \times 2 \\ \hline 147119571796859596052691789113412242432 \\ \times 2 \\ \hline 29423914359371919210538357822682444864 \\ \times 2 \\ \hline 58847828718743838421076715645364897728 \\ \times 2 \\ \hline 11769565743748767684215431129072955456 \\ \times 2 \\ \hline 23539131487497535368430862258145910912 \\ \times 2 \\ \hline 47078262974995070736861724516291821824 \\ \times 2 \\ \hline 94156525949985141473723449032583643648 \\ \times 2 \\ \hline 18831305189997028294746688066516728736 \\ \times 2 \\ \hline 37662610379994056589493376133033457472 \\ \times 2 \\ \hline 75325220759988113178986752266066914944 \\ \times 2 \\ \hline 150650441519976226357973504532133829888 \\ \times 2 \\ \hline 301300883039952452715947009064267659776 \\ \times 2 \\ \hline 602601766079904905431894018128535319552 \\ \times 2 \\ \hline 120520353215980981086378803625707069104 \\ \times 2 \\ \hline 241040706431961962172757607251414138208 \\ \times 2 \\ \hline 482081412863923924345515214502828276416 \\ \times 2 \\ \hline 96416282572784784869103042900565655232 \\ \times 2 \\ \hline 19283256514556956973820608580113110464 \\ \times 2 \\ \hline 38566513029113913947641217160226220928 \\ \times 2 \\ \hline 77133026058227827895282434320452441856 \\ \times 2 \\ \hline 15426605211645565579056486864090483712 \\ \times 2 \\ \hline 30853210423291131158112973728180967424 \\ \times 2 \\ \hline 61706420846582262316225947456361934848 \\ \times 2 \\ \hline 123412841693164524632458994912723869696 \\ \times 2 \\ \hline 24682568338632904926491798982544773932 \\ \times 2 \\ \hline 49365136677265809852983597965089547864 \\ \times 2 \\ \hline 98730273354531619705967955930178095728 \\ \times 2 \\ \hline 197460546709063239411935911860356191456 \\ \times 2 \\ \hline 394921093418126478823871823720712382912 \\ \times 2 \\ \hline 789842186836252957647743647441424765824 \\ \times 2 \\ \hline 157968437367254591529547329488284953648 \\ \times 2 \\ \hline 315936874734509183059094658976569907296 \\ \times 2 \\ \hline 631873749469018366118189317953139814592 \\ \times 2 \\ \hline 126374749893803673223637635906627762912 \\ \times 2 \\ \hline 252749499787607346447275271813255525824 \\ \times 2 \\ \hline 505498999575214692894550543626511051648 \\ \times 2 \\ \hline 101099799915042938578910108725302203296 \\ \times 2 \\ \hline 202199599830085877157820217450604406592 \\ \times 2 \\ \hline 404399199660171754315640434901208813184 \\ \times 2 \\ \hline 808798399320343508631280869802417626368 \\ \times 2 \\ \hline 161759679864068701726256173960483525336 \\ \times 2 \\ \hline 323519359728137403452512347920967050672 \\ \times 2 \\ \hline 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424043294542864257452876984666969909184 \\ \times 2 \\ \hline 848086589085728514905753969333939818368 \\ \times 2 \\ \hline 169617317817145702981150793866787963672 \\ \times 2 \\ \hline 339234635634291405962301587733575933344 \\ \times 2 \\ \hline 67846927126858281192460317546715186688 \\ \times 2 \\ \hline 135693854253716562384920635093430373376 \\ \times 2 \\ \hline 271387708507433124769841270186860746752 \\ \times 2 \\ \hline 54277541701486624953968254037372149304 \\ \times 2 \\ \hline 10855508340297324985793658807474429608 \\ \times 2 \\ \hline 21711016680594649971587317614948857216 \\ \times 2 \\ \hline 43422033361189299943174635229897714432 \\ \times 2 \\ \hline 86844066722378599886349270459795428864 \\ \times 2 \\ \hline 17368813344475719977268844099590857728 \\ \times 2 \\ \hline 34737626688951439954537688199181715456 \\ \times 2 \\ \hline 69475253377852879909075376398363430912 \\ \times 2 \\ \hline 138950506755705759818150752796726861824 \\ \times 2 \\ \hline 277901013511411519636301505593453723648 \\ \times 2 \\ \hline 555802027022823039272603011186907467296 \\ \times 2 \\ \hline 111160445044646078545206022237814934592 \\ \times 2 \\ \hline 222320890089292157090412044475629869184 \\ \times 2 \\ \hline 444641780178584314180824088951257738368 \\ \times 2 \\ \hline 889283560357168628361648177902515476736 \\ \times 2 \\ \hline 177856712071437725672329635580503095344 \\ \times 2 \\ \hline 35571342414287545134465927116100618688 \\ \times 2 \\ \hline 71142684828575090268931854232200377776 \\ \times 2 \\ \hline 14228536965750018057863618446440075552 \\ \times 2 \\ \hline 2845707393150003611572723689288015104 \\ \times 2 \\ \hline 5691414786300007223145447378576030208 \\ \times 2 \\ \hline 11382829572600014462908894757152060416 \\ \times 2 \\ \hline 22765659145200028925777789514304120832 \\ \times 2 \\ \hline 45531318290400057855555578908608241664 \\ \times 2 \\ \hline 91062636580800115711111157817216433328 \\ \times 2 \\ \hline 18212527316160023142222235635443266656 \\ \times 2 \\ \hline 36425054632320046284444471270886533312 \\ \times 2 \\ \hline 72850109264640092568888942541773066624 \\ \times 2 \\ \hline 145700218529280185337777885083546132$$

$$\textcircled{4} \textcircled{6} \textcircled{11} \textcircled{10} \quad 0,56 \xrightarrow{\text{bin}} : \quad 0,56 \times 2 = \boxed{1},12 \\ 0,12 \times 2 = \boxed{0},24 \\ 0,56 \approx 100016 \quad 0,24 \times 2 = \boxed{0},48 \\ \text{Red + trunc 4 bits} \quad 0,48 \times 2 = \boxed{0},96 \\ + 0,100016 \quad 0,96 \times 2 = \boxed{1}92 \\ \hline 0,1001106$$

$$0,56 \approx 0,10016$$

\textcircled{11} \textcircled{10} Mod de MI numero \rightarrow \textcircled{10}, \textcircled{11} \rightarrow 00010101,1001

$$\begin{array}{r} 00010101,1001 \approx 21,56 \\ \text{Flp} \downarrow \\ \downarrow 11101010,0110 \approx -21,56 \text{ (Co1)} \\ + 16 \downarrow \boxed{11101010,0111} \approx -21,56 \text{ (Co2)} \end{array}$$

$$\textcircled{111} - 96,712 - 21,56 \downarrow$$

$$\textcircled{1} - 96,712 \downarrow \approx 10011111,00016$$

$$\textcircled{1} - 21,56 \approx 11101010,01116$$

$$+ 10011111,00016 \rightarrow -96,712$$

$$\underline{11101010,01116} \rightarrow -21,56$$

$$\boxed{110001001,10006 \approx -96,712 - 21,56 \downarrow \text{Rta} \textcircled{46}}$$

Caso

$$\textcircled{4} \textcircled{5} + 44,81 \downarrow + 8,63 \downarrow$$

$$\textcircled{1} \quad \underline{\textcircled{4} \textcircled{5}}, \underline{\textcircled{8} \textcircled{1}} \downarrow \quad \textcircled{1} \textcircled{1} \textcircled{4} \textcircled{4} \xrightarrow{\text{Co2}} : \quad \begin{array}{r} 4412 \\ \times 22 \quad 42 \quad 2 \\ \hline 0 \quad 1 \quad 5 \quad 12 \\ \hline 1 \quad 2 \quad 12 \\ \hline 0 \end{array}$$

$$44 \downarrow = 101100$$

$$\textcircled{1} \textcircled{1} \textcircled{4} \textcircled{4} = 00101100_6 \text{ (Co2, 8 bits)}$$

$$\textcircled{1} \textcircled{1} \textcircled{0},81 \textcircled{1} \xrightarrow{\text{Co2}}$$

$$0,81 \times 2 = \boxed{1},62$$

$$0,62 \times 2 = 1,24$$

$$0,24 \times 2 = 0,48$$

$$0,48 \times 2 = 0,96$$

$$0,96 \times 2 = 1,92$$

$$0,81 \approx 11001$$

Red + trunc 4 bits

$$0,11001$$

$$\hline 0,11010$$

$$0,81 \approx 0,1101$$

$$\textcircled{1} \quad 44,81_d \approx 00101100,1101_6$$

$$\textcircled{10} \quad \begin{array}{r} 8,63 \\ \times 2 \\ \hline 16 \end{array}$$

$$\textcircled{11} \quad 8_d \xrightarrow{6\text{ bits}} \begin{array}{r} 812 \\ \hline 0 \quad 4 \quad 12 \\ \hline 2 \quad 12 \\ \hline 1 \quad 2 \\ \hline 0 \end{array}$$

$$8_d = 1000_6$$

$$18_d = 00001000_6 \quad (\text{Carry } 8 \text{ bits})$$

$$\textcircled{12} \quad \begin{array}{r} 0,63_d \\ \times 2 \\ \hline 1,26 \end{array}$$

$$0,26 \times 2 = 0,52$$

$$0,63_d \approx 0,10100_6$$

$$0,52 \times 2 = 1,04$$

red + trunc + 6 bits

$$0,04 \times 2 = 0,08$$

$$0,1010 \begin{array}{|l} 0 \\ \hline 1 \end{array}$$

$$0,08 = 0,16$$

$$\overline{0,101011}$$

$$0,1010_6 \approx 0,63_d$$

$$\textcircled{13} \quad 8,63_d \approx 00001000,1010$$

$$\textcircled{14} \quad 44,81_d + 8,63_d$$

$$00101100,1101_6 \rightarrow 44,81_d$$

$$00001000,1010_6 \rightarrow 8,63_d$$

$$00110101,0111_6 \approx 44,81_d + 8,63_d : \text{RTA} \quad \textcircled{15}$$

$$\textcircled{16} \quad \begin{array}{r} -101,812 \\ \hline 1 \end{array} + \begin{array}{r} 66,662 \\ \hline 11 \end{array}$$

$$\textcircled{17} \quad -101,812 \xrightarrow{\text{Carry}} 1-101,812_1 = \begin{array}{r} 101,812 \\ \hline 1 \quad 11 \end{array}$$

$$\textcircled{18} \quad 101_d \xrightarrow{6\text{ bits}} \begin{array}{r} 10112 \\ \hline 1 \quad 5 \quad 12 \\ \hline 0 \quad 2 \quad 5 \quad 12 \\ \hline 1 \quad 12 \quad 12 \\ \hline 0 \quad 6 \quad 12 \\ \hline 1 \quad 3 \quad 12 \\ \hline 1 \quad 2 \quad 0 \end{array}$$

$$101_d = 1100101_6$$

$$\textcircled{19} \quad 101_d = 01100101_6 \quad (\text{Carry})$$

$$\textcircled{20} \quad 0,812 \xrightarrow{\text{Carry}}$$

$$0,812 \times 2 = \boxed{1},624$$

$$0,624 \times 2 = \boxed{1},248$$

$$0,812_d \approx 0,11001_6$$

$$0,248 \times 2 = \boxed{0},496$$

red + trunc 4 bits

$$0,496 \times 2 = \boxed{0},992$$

$$0,11001_6$$

$$0,992 \times 2 = \boxed{1},984$$

$$\overline{0,11010}$$

$$0,812_d \approx 0,1101$$

Hora 11

④ ① ② ③ Modulo de un numero $\rightarrow ①_0, ②_0 \rightarrow 01100101, 1101$
 $c=1 \quad ③ 101,812 \stackrel{c=1}{\sim} 10011010,0010$
 $c=2 \quad ④ 101,812 \stackrel{c=2+1}{\sim} 10011010,0011$

① $\frac{66}{1}, \frac{66}{1}$ ② $① 66_d \xrightarrow{c=2}$ $66 \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2}$
 $Q \quad | \quad Q \quad | \quad Q$
 $66_d = 1000010_b$
 $+ 66_d = 01000010 \text{ (c=2)}$

③ $① 0,66_d \xrightarrow{c=2}$ $0,66_d \times 2 = 1,32_d \quad 0,66 \stackrel{red \vee trunc \text{ 4 bits}}{\sim} 00010101_b$
 $0,32_d \times 2 = 0,64_d$
 $0,64_d \times 2 = 1,28_d \quad + 0,10101_b$
 $0,28_d \times 2 = 0,56_d \quad \overline{16}$
 $0,56_d \times 2 = 1,12_d$
 $0,66 \stackrel{c=2}{\sim} 0,1011$

④ ③ $66,66_d \stackrel{c=2}{\sim} ①_0, ②_0 \rightarrow 01000010,1011$

③ $-101,812 \stackrel{c=2}{\sim} 10011010,0011_b$
 $66,66 \stackrel{c=2}{\sim} 01000010,1011_b$

$$-101,812 + 66,66 =$$

$$10011010,0011_b \rightarrow -101,812_d$$

$$01000010,1011_b \rightarrow 66,66_d$$

$$11011100,1110_b \stackrel{R_{TA}}{\sim} -101,812_d + 66,66_d \quad ④ ③$$