

La división por esos mundos



Una ojeada rápida.
R. Vázquez 2016

Name _____

Date _____

$$372.6 \div 3$$

QUOTIENT	1	2	4	.	2
	DIVIDEND				
DIVISOR	HUNDREDS	TENS	ONES	.	TENTHS
3	3 -3 0	7 -6 1	2 -10 12 -12 0	.	6 -6 0

$$851.4 \div 6$$

QUOTIENT	1	4	1	.	6
	DIVIDEND				
DIVISOR	HUNDREDS	TENS	ONES	.	TENTHS
6	8 -6 2	5 -20 25 -24 1	1 -10 11 -6 5	.	4 -20 54 -54 0

$$302.4 \div 9$$

QUOTIENT				.	
	DIVIDEND				
DIVISOR	HUNDREDS	TENS	ONES	.	TENTHS
9	3	0	2	.	4

Un sistema bastante razonable de dividir.

Buena comprensión del proceso, concepto de número, algoritmo único para toda clase de números...
EEUU. 2014

Divide 372,6 euros entre 3 personas

centena	decena	unidad		décima
			,	

Divisor	centena	decena	unidad		décima
3	3	7	2	,	6

$$372,6 : 3$$

1			,	
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Divisor
3

centena	decena	unidad
3	7	2
-3		
<hr/>		
0		

,

décima
6

$$372,6 : 3$$

1	2		,	
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Divisor
3

centena	decena	unidad
3	7	2
-3	-6	
<hr/>	<hr/>	
0	1	

décima
6

$$372,6 : 3$$

1	2		,	
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Divisor
3

centena	decena	unidad
3	7	2
-3	-6	+10
<hr/>	<hr/>	<hr/>
0	1	12

décima
6



$$372,6 : 3$$

1	2	4	,	
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Divisor
3

centena	decena	unidad
3	7	2
-3	-6	+10
<hr/>	<hr/>	<hr/>
0	1	12

-12

0

décima
6

$$372,6 : 3$$

1 **2** **4** , **2**

Divisor
3

centena	decena	unidad
3	7	2
-3	-6	+10
<hr/>	<hr/>	<hr/>
0	1	12

-12

0

décima
6
-6
<hr/>
0

Ms. Chandra wanted to become the best yodeler in the world! So she knew, like with anything, that to be good at something, you have to practice A LOT! So she practiced for 3,333 hours over the last 12 months. How much did Ms. Chandra yodel each month?

$$\begin{array}{r}
 277 \frac{9}{12} \\
 12 \overline{) 3333} \\
 \underline{-24} \\
 93 \\
 \underline{-84} \\
 93 \\
 \underline{-84} \\
 9
 \end{array}$$

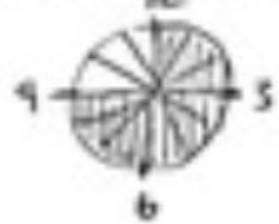
- $12 \times 2 = 24$
- $12 \times 3 = 36$
- $12 \times 4 = 48$
- $12 \times 5 = 60$
- $12 \times 6 = 72$
- $12 \times 7 = 84$
- $12 \times 8 = 96$
- $12 \times 9 = 108$

Siempre con restas parciales

(The remainder)

9 ← remainder

We are talking about $\frac{9}{12}$ of an hour. Conveniently a hour is broken into 12 equal segments



} $\frac{3}{4}$ of an hour or 45 minutes

277 hrs 45 min of practice each month

Try the following problems on your own in your notebook.

Show your answer with a remainder, then report your answer with the remainder interpreted.

¿Por qué
ponen
el cociente
encima del
dividendo?

The image shows a long division problem: $19 \overline{) 8061.89}$. The quotient 04 is written above the first two digits of the dividend. The first subtraction step shows $80 - 76 = 4$, with the remainder 4 brought down to form 46 . The next step shows $46 - 38 = 8$, with the remainder 8 brought down to form 81 . The third step shows $81 - 76 = 5$, with the remainder 5 brought down to form 58 . The fourth step shows $58 - 38 = 20$, with the remainder 20 brought down to form 208 . The fifth step shows $208 - 190 = 18$, with the remainder 18 brought down to form 189 . The final step shows $189 - 190 = -1$, which is corrected to 0 . Green boxes highlight the quotient digits and the intermediate remainders. Green arrows indicate the downward flow of the remainder and the upward movement of the decimal point.

$$\begin{array}{r} 04 \\ 19 \overline{) 8061.89} \\ \underline{-76} \\ 46 \\ \underline{-38} \\ 81 \\ \underline{-76} \\ 58 \\ \underline{-38} \\ 208 \\ \underline{-190} \\ 189 \\ \underline{-190} \\ 0 \end{array}$$

¿Por qué
ponen
el cociente
encima del
dividendo?

$$\begin{array}{r} \\ 21 \overline{) 1098.3} \\ \underline{-105} \\ 48 \\ \underline{-42} \\ 63 \\ \underline{-63} \\ 0 \end{array}$$

Es más intuitivo lo de “Diez no cabe, cojo 109.”

Está más claro lo de ir bajando cifras.

No nos olvidamos cuando llega la coma.

Si hay resto, se ve qué orden de unidad es el resto.

A handwritten long division problem showing the division of 1098.3 by 21. The divisor 21 is on the left, and the dividend 1098.3 is on the right. The quotient is 52.3. The steps are as follows:

- Step 1: 21 goes into 109 eight times (21 * 8 = 168). The remainder is 48.
- Step 2: Bring down the next digit, 3, to get 483. 21 goes into 483 twenty-three times (21 * 23 = 483). The remainder is 0.

The diagram uses green boxes and arrows to highlight the process:

- A green box highlights the first step: $21 \overline{) 1098.3}$ with -168 and a remainder of 48 .
- Green arrows point down from the 8 in the quotient to the 48 in the remainder, and from the 3 in the dividend to the 483 in the next step.
- A second green box highlights the second step: $21 \overline{) 483}$ with -483 and a remainder of 0 .
- A third green box highlights the final result: 52.3 .

Partial Quotient Division

Step 1: Draw what looks like a hangman pole and place the dividend in the middle and the divisor on the outside.

Step 2: Next, pull out groups of 8. For example, you can pull out 40 groups of 8 for a total of 320. Place the number of groups on the outside and the total that was pulled out on the inside below the dividend.

Step 3: Subtract the total number of groups you just pulled out from the dividend.

Step 4: Pull out 3 groups of 8 for a total of 24 and subtract again.

Step 5: You can't pull out any more groups of 8, so add the numbers on the right to get the quotient of 43. The 7 is your remainder.

$$\begin{array}{r} 43 \text{ R } 7 \\ 8 \overline{) 351} \\ \underline{- 320} \quad 40 \\ \quad 31 \\ \underline{- 24} \quad + 3 \\ \quad \quad 7 \quad \underline{43} \end{array}$$

43

$$\begin{array}{r} 6 \overline{) 258} \\ \underline{-120} \\ 138 \\ \underline{-120} \\ 18 \\ \underline{-18} \\ 0 \end{array} \quad \begin{array}{l} 20 \\ 20 \\ 3 \end{array}$$

258 : 6

Este sistema
es más libre
y se centra
en el número.

Write this: "BSCB"
Bunnies Sure Can Bite

B

S

C

B

B

S

C

B

Look in the answer BOX...

Busca en la tabla del 2 que resultado se acerca más al primer número del dividendo, y escribe ese número arriba (en el cociente)

B= look for the answer box that is equal to the first number in the dividend (x) but is not bigger than the dividend, (click) write the multiplication number on top of the number that are dividing (x)

$$\begin{array}{r} 4 \\ 2 \overline{) 82} \end{array}$$

- $2 \times 1 = 2$
- $2 \times 2 = 4$
- $2 \times 3 = 6$
- $2 \times 4 = 8$
- $2 \times 5 = 10$
- $2 \times 6 = 12$
- $2 \times 7 = 14$
- $2 \times 8 = 16$
- $2 \times 9 = 18$
- $2 \times 10 = 20$

B

S

C

B

S=

Subtract the number in the box (click) from the number in the dividend that you are dividing

S
U
R

(click)

Subtract...
Resta el número obtenido del número en el dividendo

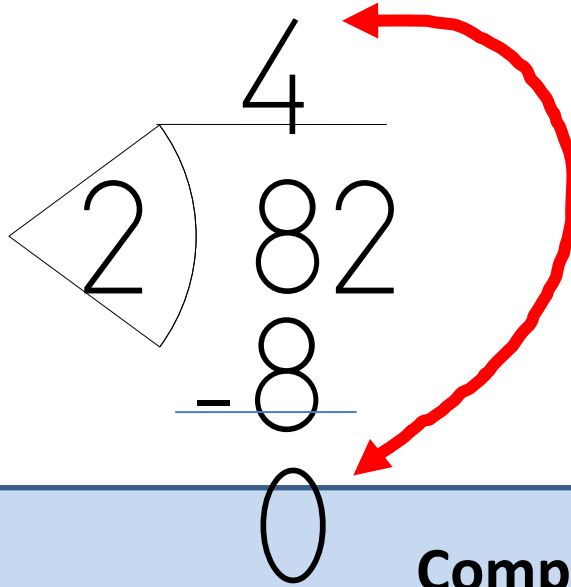
$$\begin{array}{r} 4 \\ \hline 2 \overline{) 82} \\ \underline{- 80} \\ 0 \end{array}$$

B

S

C

B



C= Compare the difference (the answer to the number you subtracted) (click) to the divisor (click) if it is smaller, or equal to the divisor, then go on to the next step.

In this case you would ask yourself, Is zero smaller, or equal to 2? Yes, so go on to the next step.

(click)

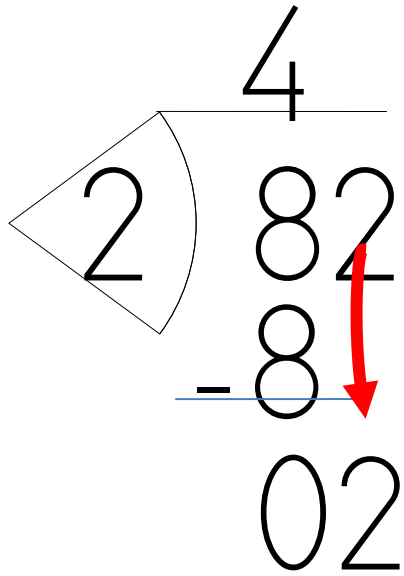
Compare...
Compara: el resultado de la resta con el divisor. Si es menor, vas bien.

B

S

C

B



**ADD THE "2" BACK IN
(click)**

B = bring down the next
number
(click twice)

B
I
T
E

Bring back.....

Baja la cifra siguiente... y vuelve a comenzar

Division à deux chiffres

4	3	2	0		1	2	
-	3	6			3	6	0
	0	7	2				
		-	7	2			
			0	0	0		
				-	0	0	
							0

Je peux poser la table :

- $12 \times 1 = 12$
- $12 \times 2 = 24$
- $12 \times 3 = 36$
- $12 \times 4 = 48$
- $12 \times 5 = 60$
- $12 \times 6 = 72$
- $12 \times 7 = 84$
- $12 \times 8 = 96$
- $12 \times 9 = 108$

$$4320 : 12 = 360$$

Divisione con 2 cifre al divisore

$$\begin{array}{r} \overline{1375} : \underline{25} \\ \underline{125} \\ 0125 \\ \underline{125} \\ 000 \end{array}$$

1375 = Dividendo

25 = Divisore

55 = Quoziente

0 = Resto

Dividendo = Quoziente x Divisore

$$1375 = 55 \times 25$$

$$\begin{array}{r} 55 \times \\ \underline{25} = \\ 275 + \\ \underline{110} = \\ 1375 \end{array}$$



2) Tim rechnet schrittweise:

$$\begin{array}{r} 48 : 4 = 12 \\ \hline 40 : 4 = 10 \\ \hline 8 : 4 = 2 \end{array}$$

$$\begin{array}{r} 428 : 4 = 107 \\ \hline 400 : 4 = 100 \\ \hline 28 : 4 = 7 \end{array}$$

Löse die Aufgaben mit Tims Rechenweg!

a) $39 : 3 =$

b) $525 : 5 =$

☆ c) $749 : 7 =$

☆ d) $836 : 4 =$

f) $13780 : 20 = 6719$

$$\begin{array}{r} 120 \\ \hline 178 \\ \hline 140 \\ \hline 380 \\ \hline 380 \\ \hline 0 \end{array}$$



Liggande stolen

$$\begin{array}{r} 158 \\ \hline 792 \quad | \quad 5 \\ - 5 \\ \hline 29 \\ - 25 \\ \hline 42 \\ - 40 \\ \hline \end{array}$$

Moment

Hur mycket är 5 gånger 8?

40

Skriv 40 under

Subtrahera



Cociente → 118

Divisor → 2

Dividendo → 236

Residuo → 0

$$\begin{array}{r} 118 \\ 2 \overline{) 236} \\ \underline{-2} \\ 03 \\ \underline{-2} \\ 16 \\ \underline{-16} \\ 0 \end{array}$$

