

MATEMÁTICA



Fracciones decimales

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Objetivo de Aprendizaje:

MA06 OA 08

Resolver problemas rutinarios y no rutinarios que involucren adiciones y sustracciones de fracciones propias, impropias, números mixtos o decimales hasta la milésima.



Objetivo de la clase:

Identificar y relacionar fracciones decimales y porcentajes.

Habilidades: Aplicar, resolver.

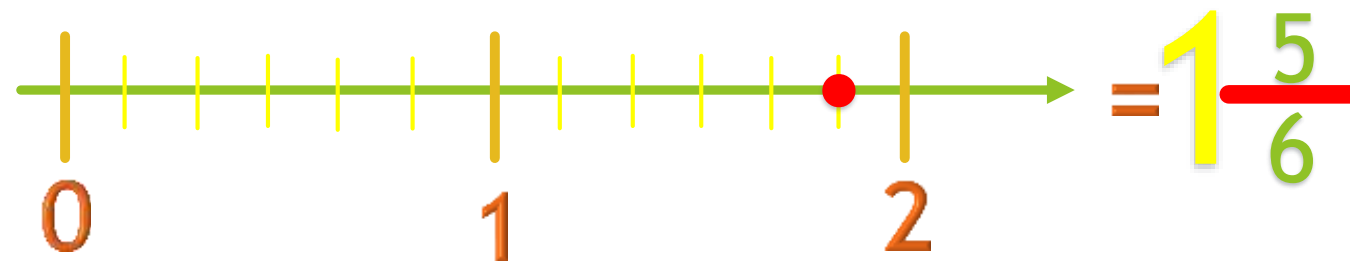
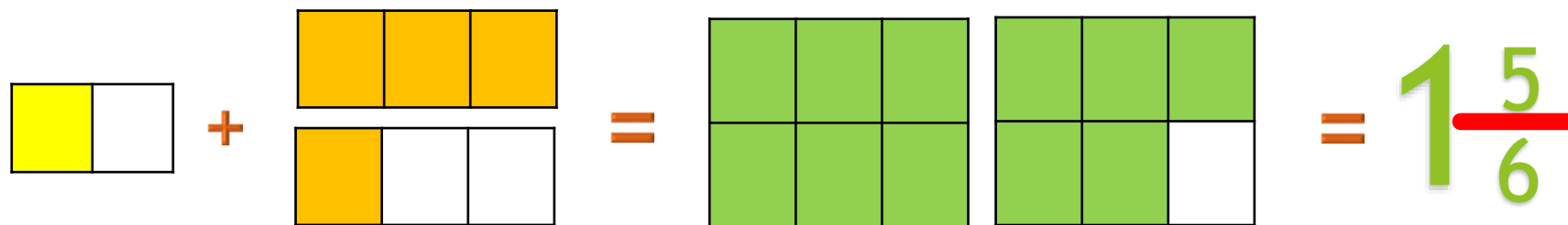


Valor a trabajar: Voluntad y compromiso

Suma de fracciones con distinto denominador.

$$\frac{1}{2} + \frac{4}{3} = \frac{3+8}{6} = \frac{11}{6} = 1\frac{5}{6}$$

The diagram shows the addition of $\frac{1}{2}$ and $\frac{4}{3}$. A green 'X' is drawn over the original fractions, and a yellow dot is placed between the denominators 2 and 3. Red arcs connect the denominators to the common denominator 6. The numerators 3 and 8 are added to get 11. A final red arc connects the denominator 6 to the mixed number $1\frac{5}{6}$.





Transformar de fracción impropia a número mixto o fracción mixta.

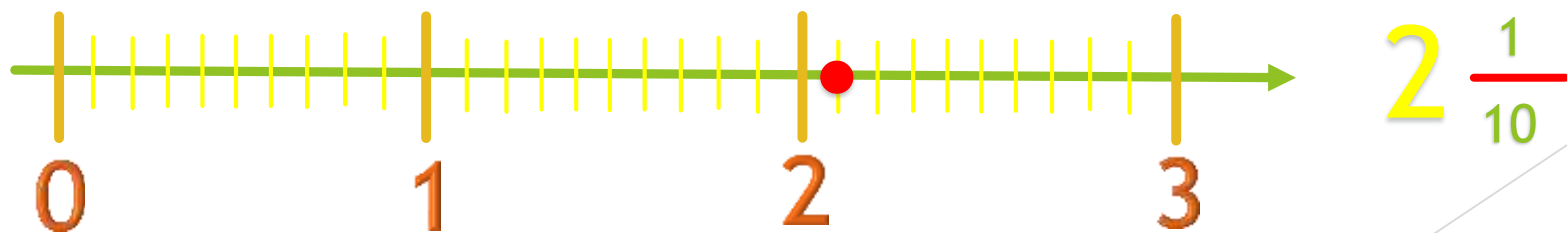
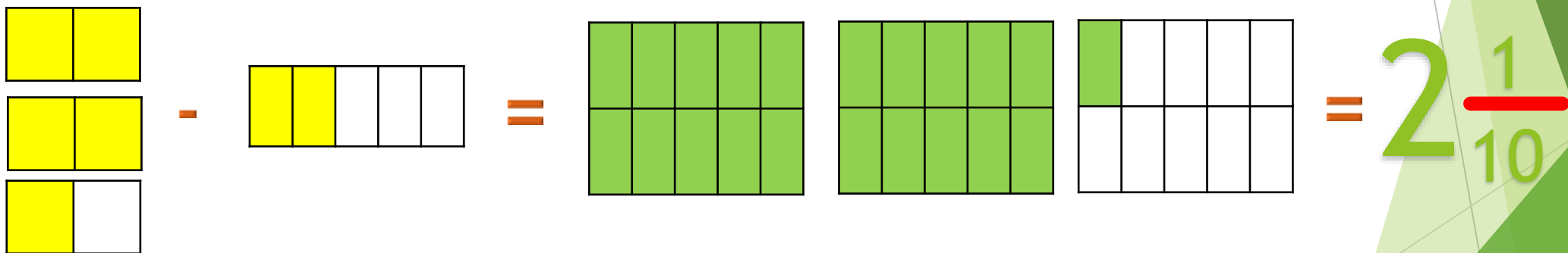
$$\frac{6}{5} = 1 \frac{1}{5}$$

$$\frac{16}{7} = 2 \frac{2}{7}$$



Resta de fracciones con distinto denominador.

$$\frac{5}{2} - \frac{2}{5} = \frac{25 - 4}{10} = \frac{21}{10} = 2 \frac{1}{10}$$



Transformar de número mixto a fracción impropia.

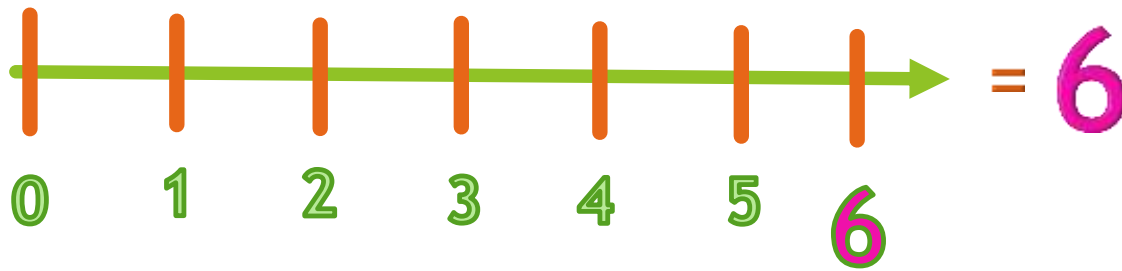
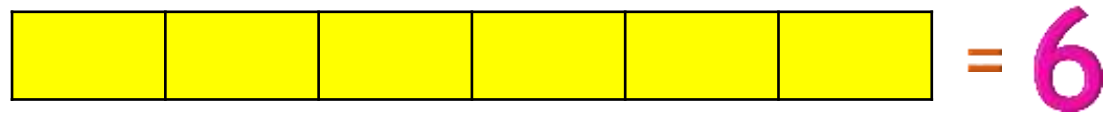
$$3 \frac{2}{5} = \frac{17}{5} = \begin{array}{|c|c|c|c|c|} \hline \text{orange} & \text{orange} & \text{orange} & \text{orange} & \text{orange} \\ \hline \end{array} \begin{array}{|c|c|c|c|c|} \hline \text{orange} & \text{orange} & \text{orange} & \text{orange} & \text{orange} \\ \hline \end{array} \begin{array}{|c|c|c|c|c|} \hline \text{orange} & \text{orange} & \text{orange} & \text{orange} & \text{orange} \\ \hline \end{array} \begin{array}{|c|c|c|c|c|} \hline \text{orange} & \text{orange} & \text{white} & \text{white} & \text{white} \\ \hline \end{array}$$

The diagram illustrates the conversion of the mixed number $3 \frac{2}{5}$ to the improper fraction $\frac{17}{5}$ and its representation as a bar model. The mixed number is shown with a large orange '3' and a fraction $\frac{2}{5}$ in red. A plus sign is above the fraction bar, and a multiplication sign is below it. Green arrows show the calculation: $3 \times 5 = 15$ and $15 + 2 = 17$. The resulting improper fraction $\frac{17}{5}$ is shown in green. To the right, a bar model consists of two rows of five boxes each. The top row is completely filled with orange boxes. The bottom row is also filled with orange boxes, but the last three boxes are white, representing the remainder of 2 out of 5 parts.

Sumar fracciones mixtas

Método 1 simple: Sumar o restar números mixtos con fracción de igual denominador.

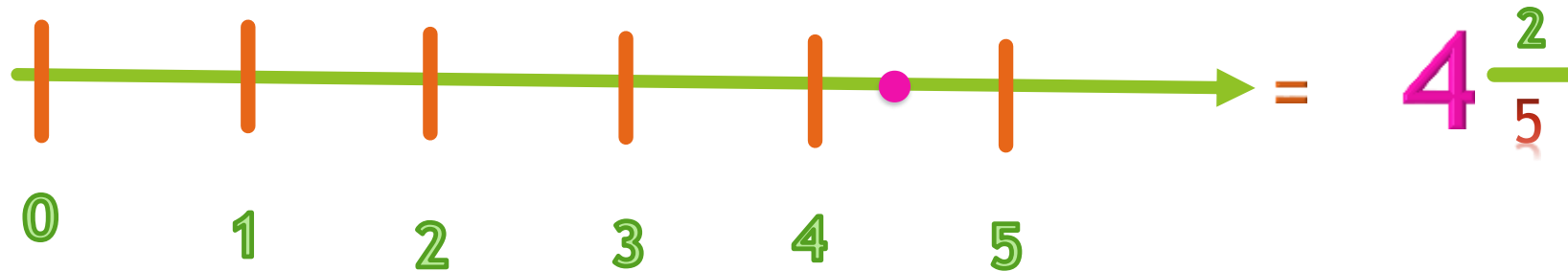
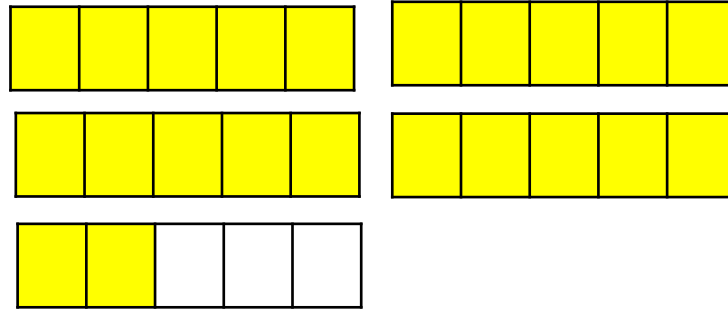
$$2\frac{1}{3} + 3\frac{2}{3} = 5\frac{3}{3} = 5 + 1 = 6$$



Restar fracciones mixtas

Método 1 simple: Sumar o restar números mixtos con fracción de igual denominador.

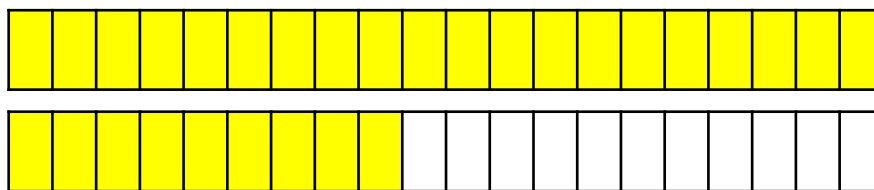
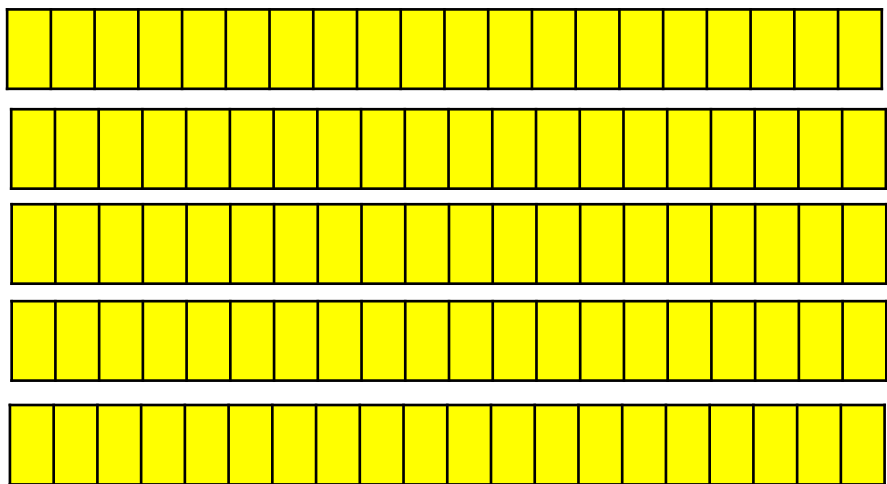
$$12\frac{4}{5} - 8\frac{2}{5} = 4\frac{2}{5} =$$



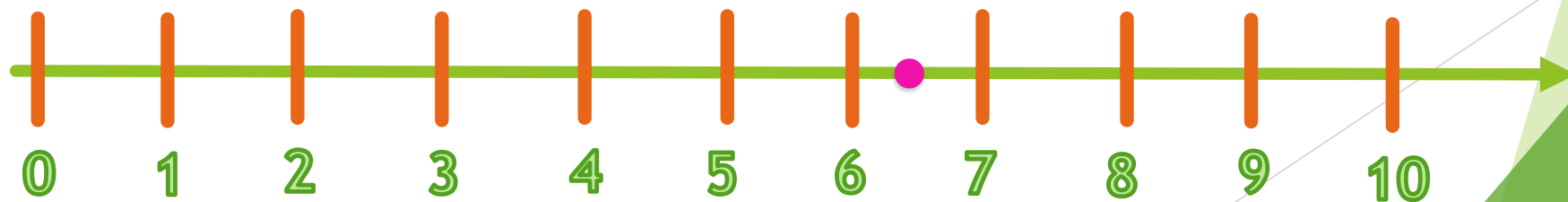
Sumar fracciones mixtas

Método 2: Transformar de número mixto a fracción impropia luego sumar o restar.

$$4\frac{1}{5} + 2\frac{2}{8} = \frac{21}{5} + \frac{18}{8} = \frac{168 + 90}{40} = \frac{258}{40} = 6\frac{18}{40} = 6\frac{9}{20}$$



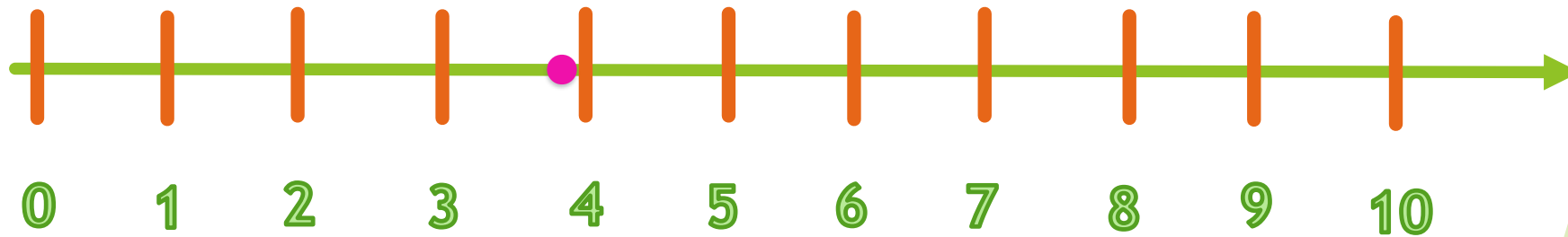
$$= 6\frac{9}{20}$$



Restar fracciones mixtas

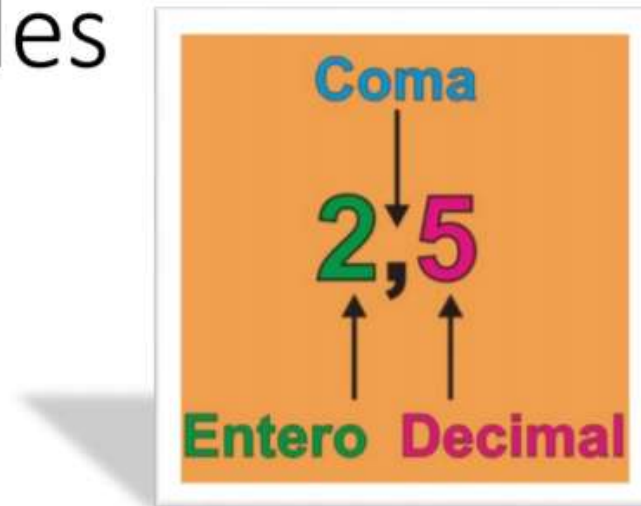
Método 2: Transformar de número mixto a fracción impropia luego sumar o restar.

$$6\frac{1}{4} - 2\frac{1}{3} = \frac{25}{4} - \frac{7}{3} = \frac{75 - 28}{12} = \frac{47}{12} = 3\frac{9}{12}$$



Los **números decimales** se utilizan para representar números más pequeños que la unidad.

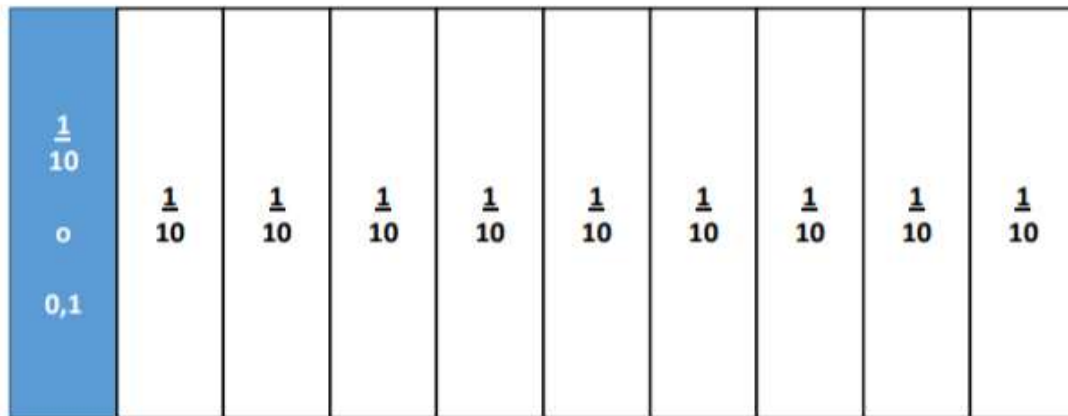
Los decimales



Un número decimal tiene una parte entera y una parte decimal separada por la coma decimal.

Decimales

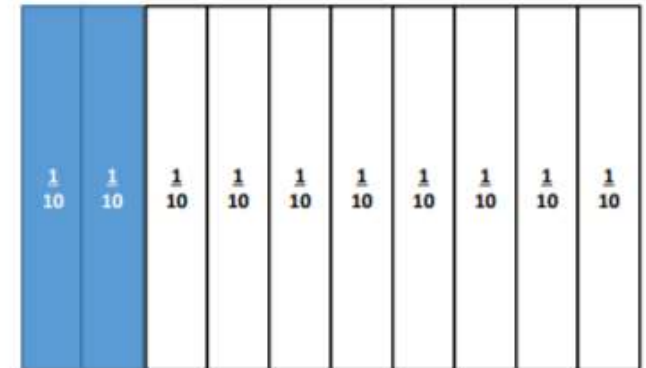
Un décimo



• Dos décimos

Fracción:
 $\frac{2}{10}$

Decimal:
0,2



Ejercicio 1

- Establece la fracción correspondiente, según los pasos que vimos anteriormente.

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
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¿_____?

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
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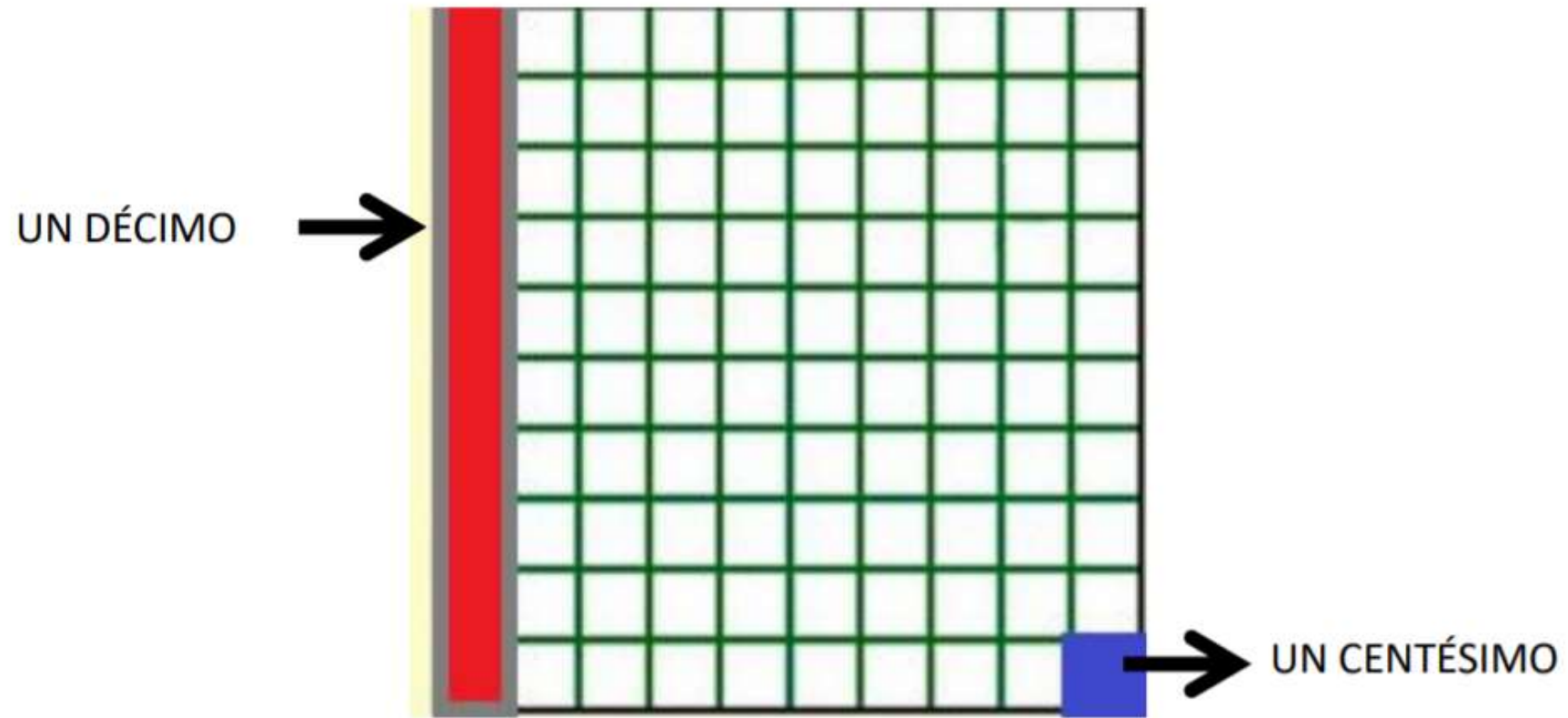
¿_____?

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
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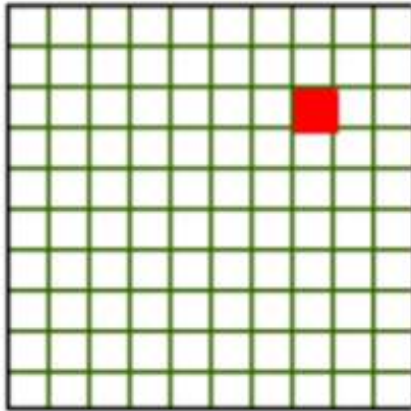
¿_____?

¿Cómo la expresamos?

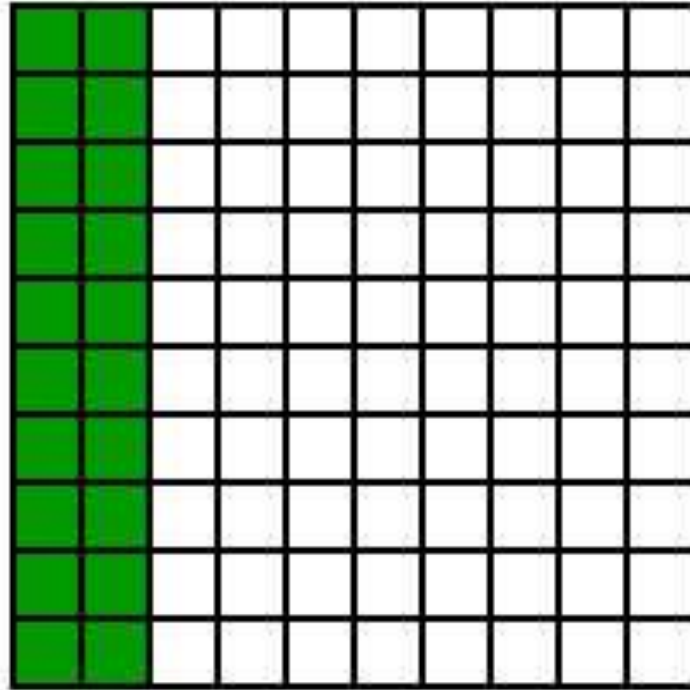
centésimos



CENTÉCIMOS



$$\text{Una centésima} = \frac{1}{100} = \mathbf{0.01}$$



La zona pintada
representa $\frac{20}{100} = 20\%$

Ticket de salida



ANTES DE SALIR HAZ CLIC EN EL ENLACE PARA RESPONDER TU TICKET DE SALIDA. UTILIZA TU CUENTA DE CORREO INSTITUCIONAL.

