



the National Parent  
Forum of Scotland

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[inspire.innovate.educate](https://inspire.innovate.educate)

# Learning Together

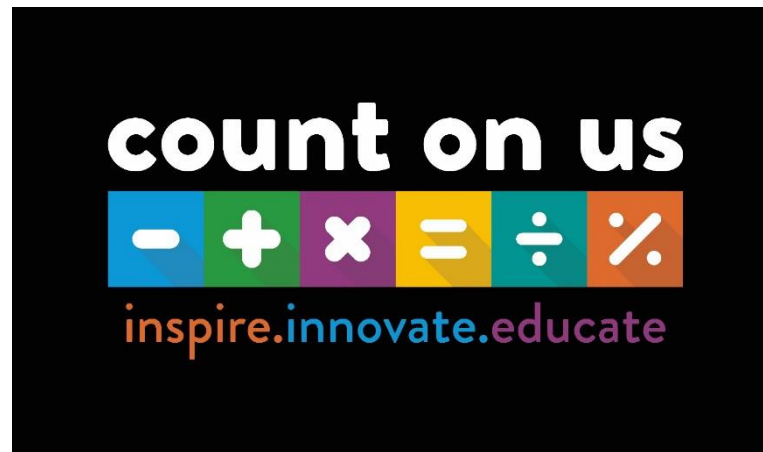
## Online Numeracy and Mathematics sessions for parents to support Learning at Home

*With support from Education Scotland and Scottish Government,  
building on themes emerging from the 'Making Maths Count'  
Group report*



Scottish Government  
Riaghaltas na h-Alba  
[gov.scot](https://gov.scot)

**MAKING  
MATHS  
COUNT**



# Learning Together Session 6

Friday 19<sup>th</sup> June 10:00

Fractions

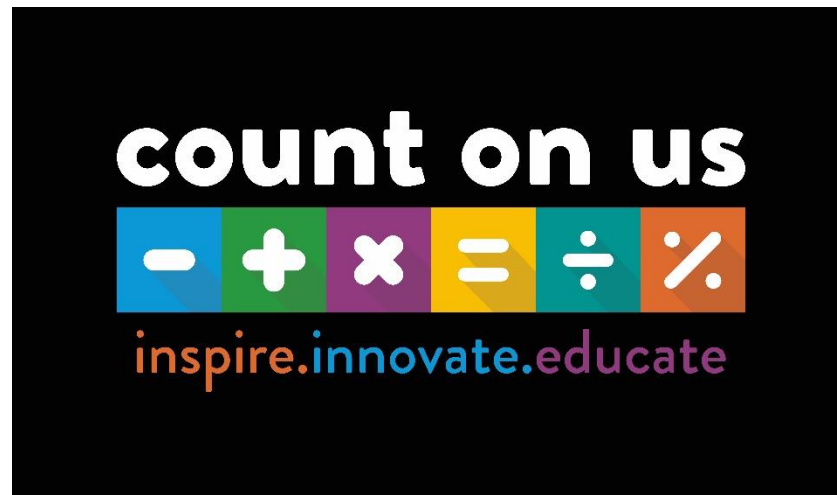
#npfsmaths

Twitter : @CountOnUsEd

# Learning Together Session 6

## Percentages:

- What is a percentage
- Percentage fraction equivalence
- Percentage value of a quantity



**@CountOnUsEd**

**#NumeracyBluePrints**

[www.countonus.org.uk](http://www.countonus.org.uk)

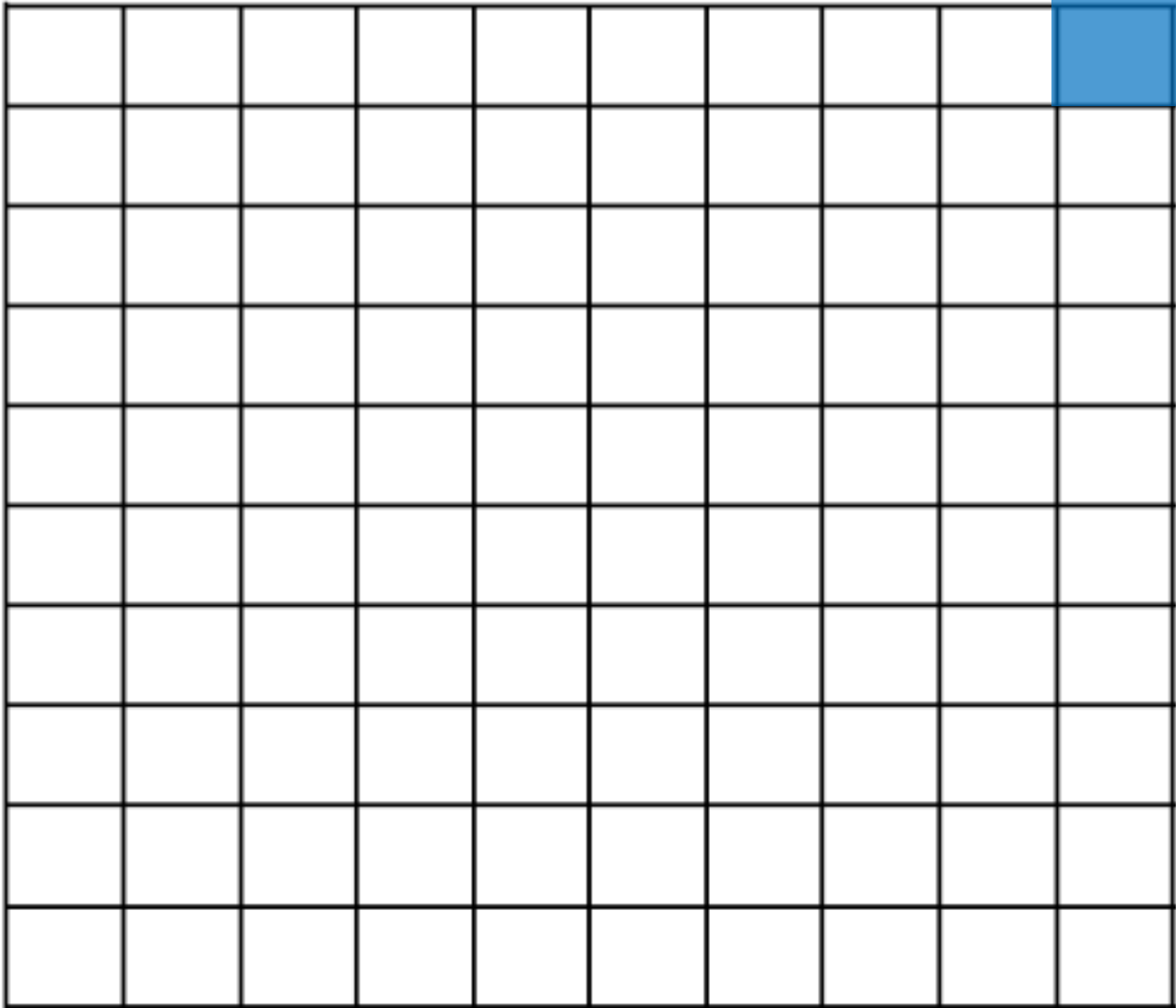
[chris@countonus.org.uk](mailto:chris@countonus.org.uk)

07828 227 039

# Investigating Percentage and Fraction Equivalence

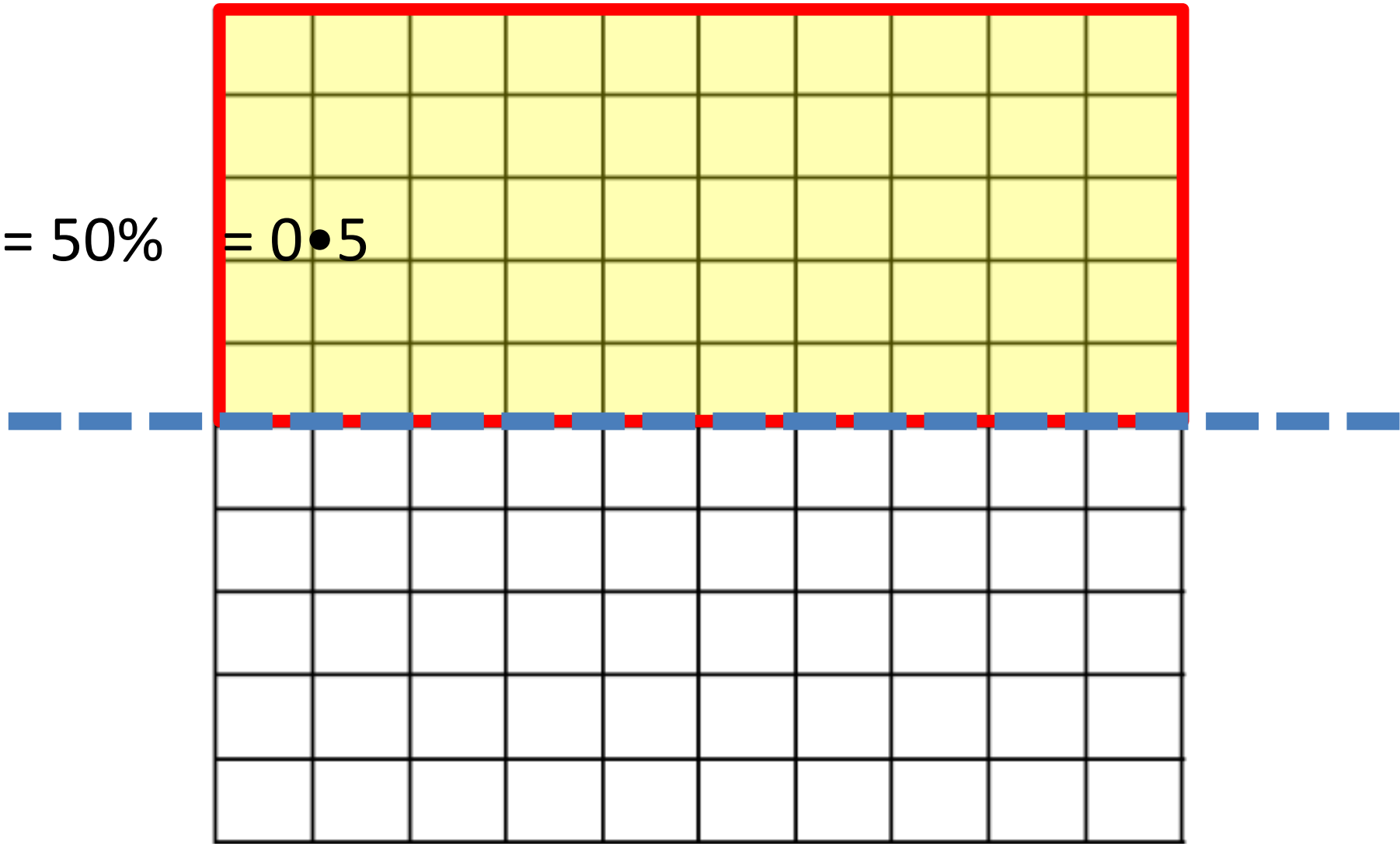
The Big Grid = 100%

1 box = 1%



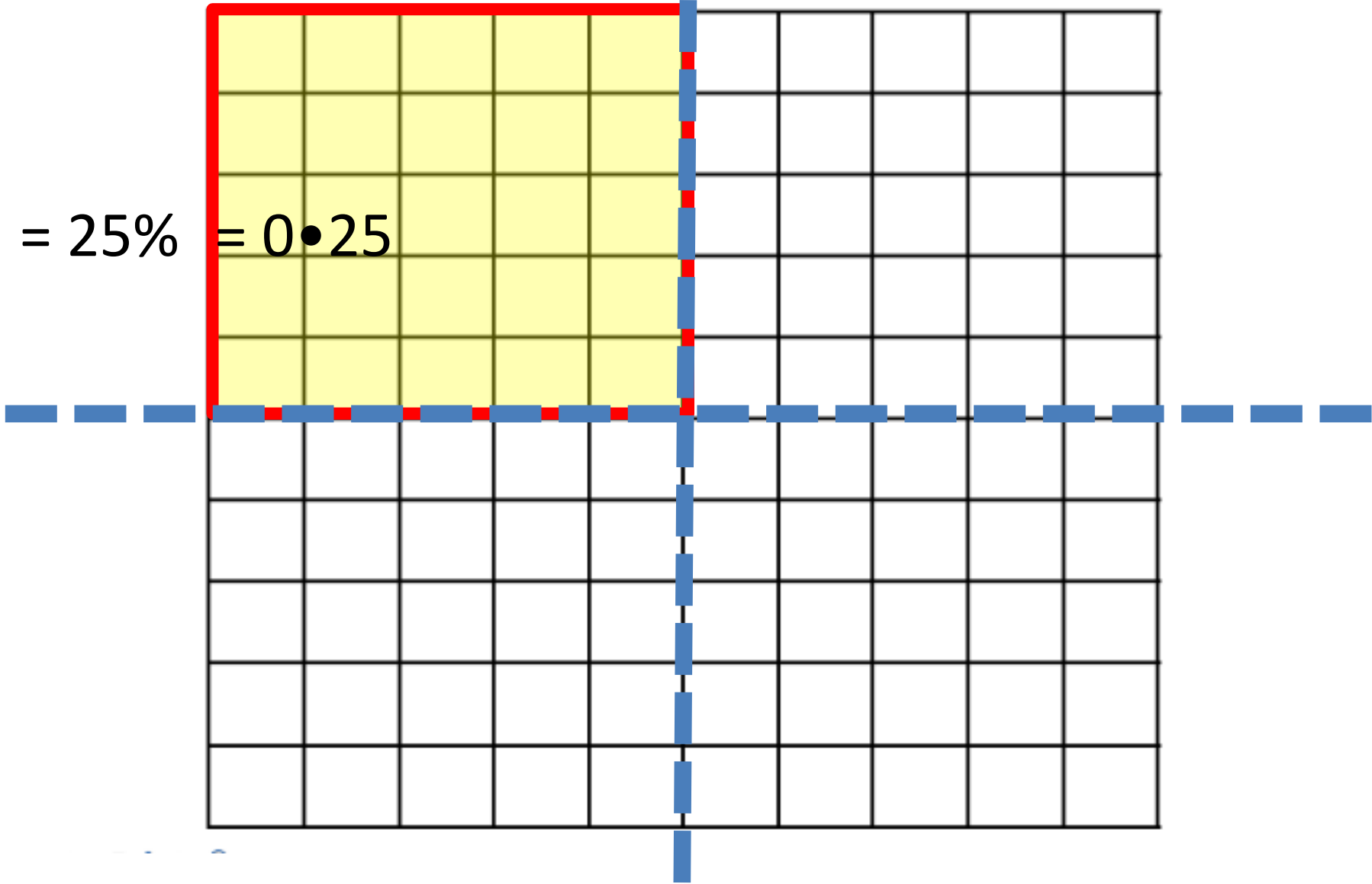
The Big Grid = 100%

$$\frac{1}{2} = 50\% = 0.5$$



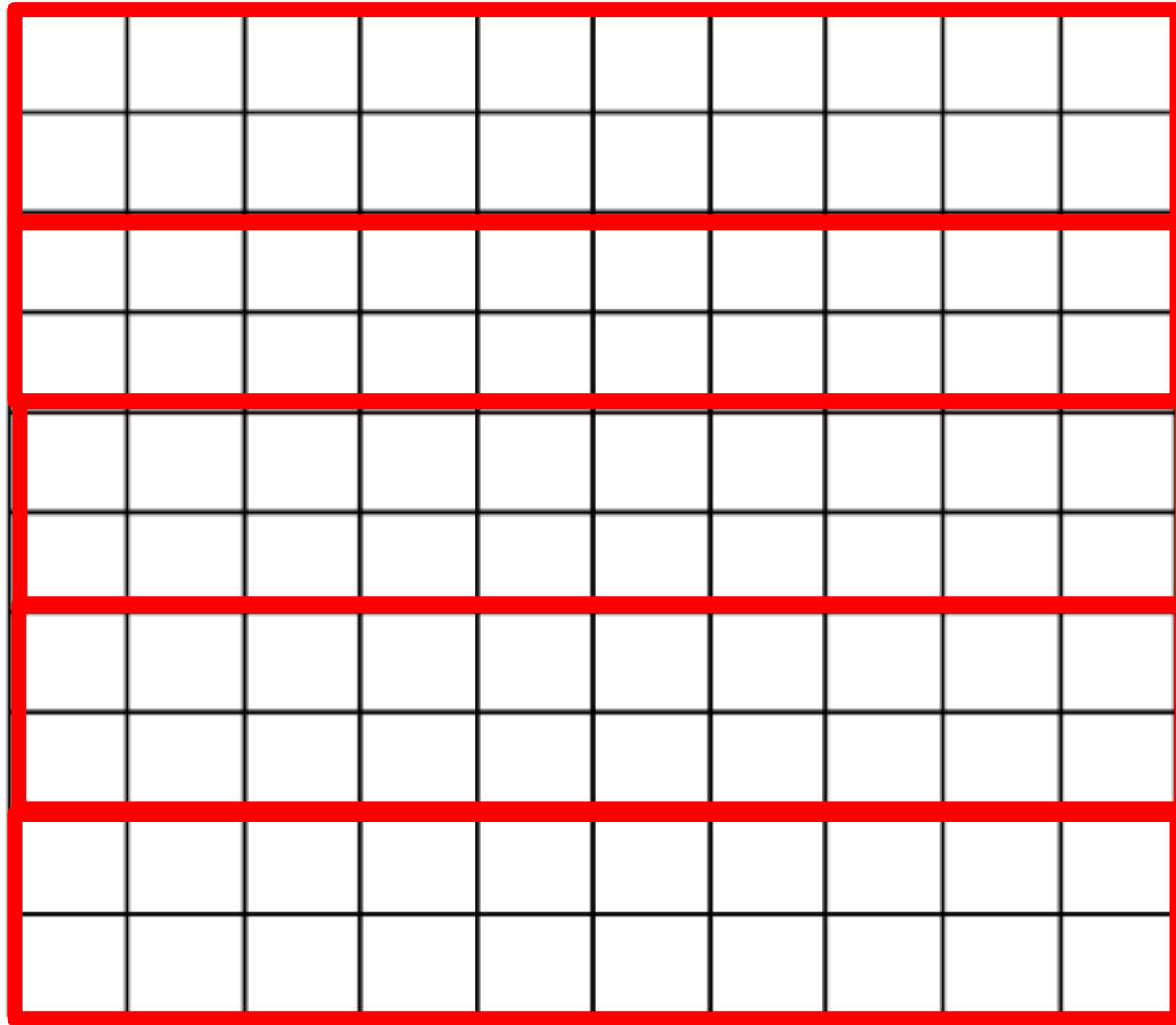
The Big Grid = 100%

$\frac{1}{4}$   
= 25% =  $0 \cdot 25$





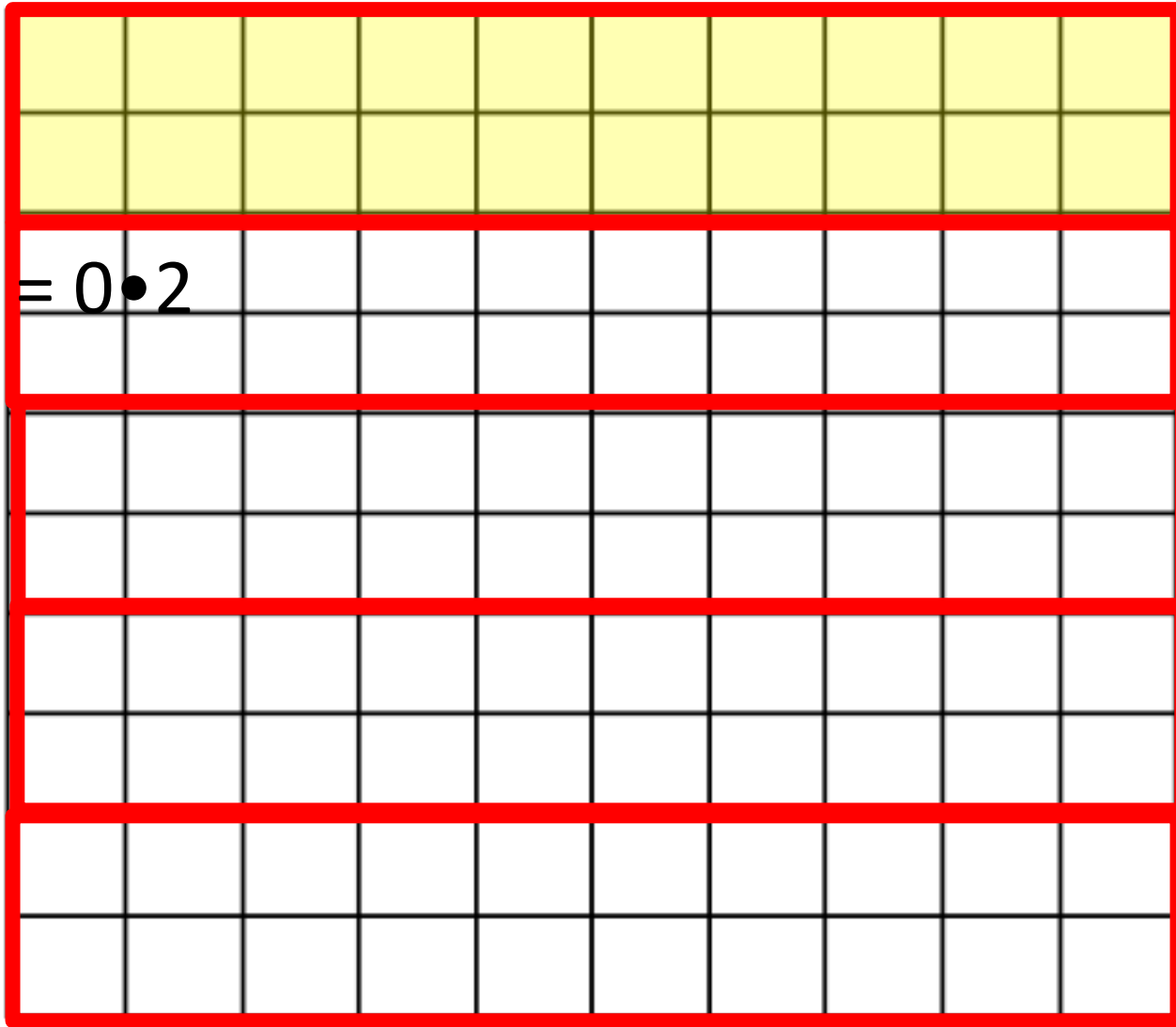
# The Big Grid= 100%



# The Big Grid= 100%

$$\frac{1}{5} = 20\%$$

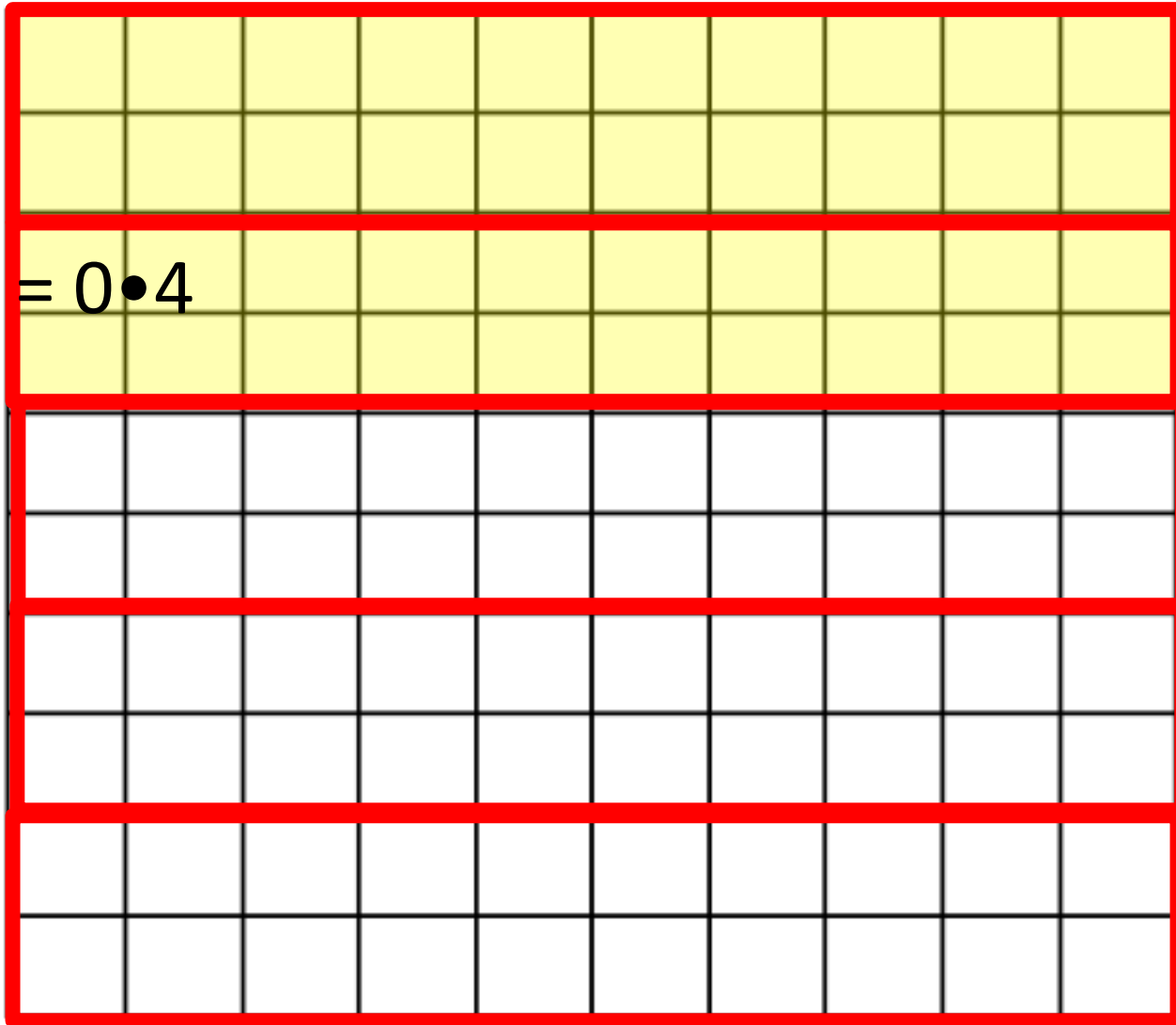
$$= 0.2$$



# The Big Grid= 100%

$$\frac{2}{5} = 40\%$$

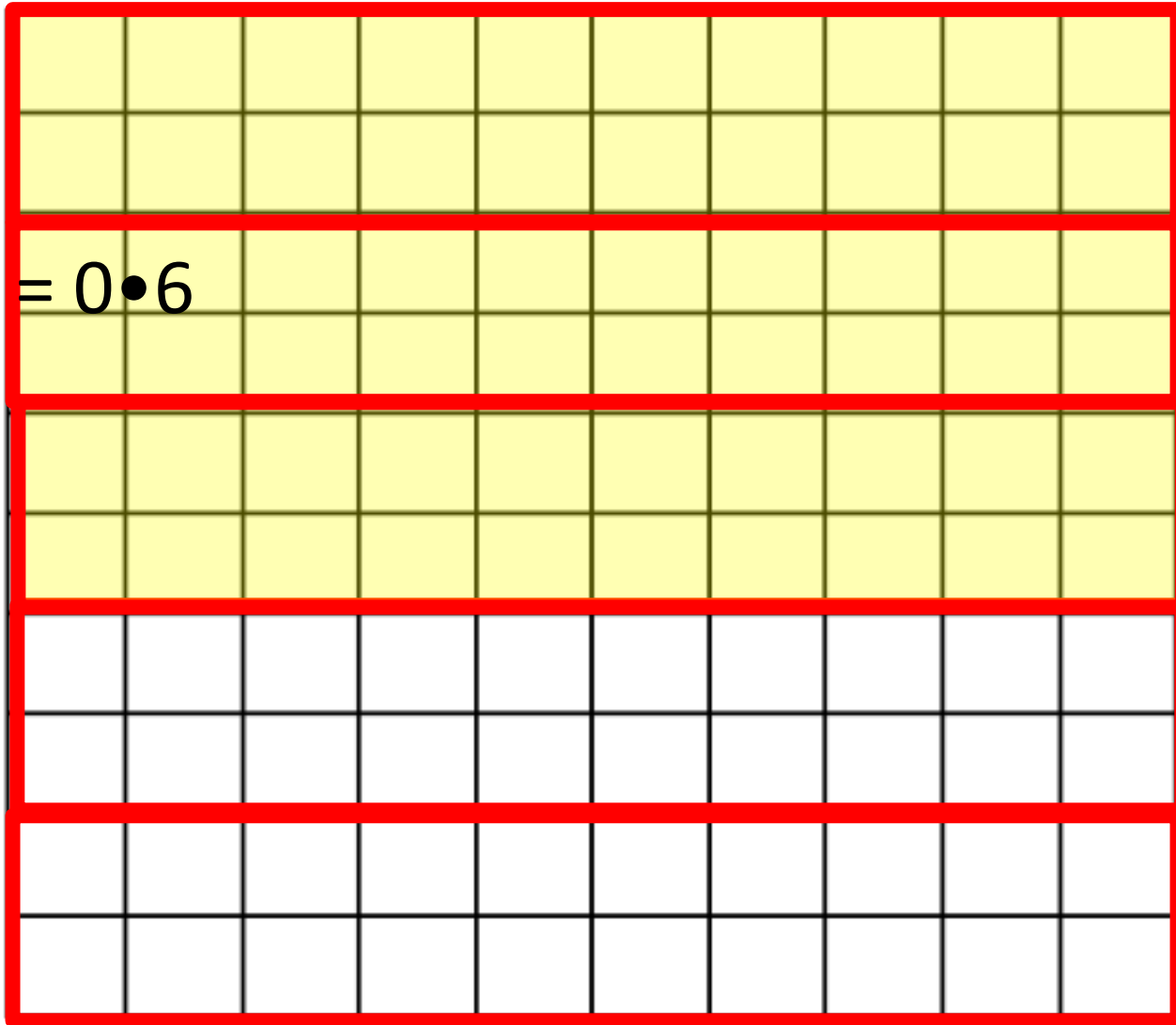
$$= 0.4$$



# The Big Grid= 100%

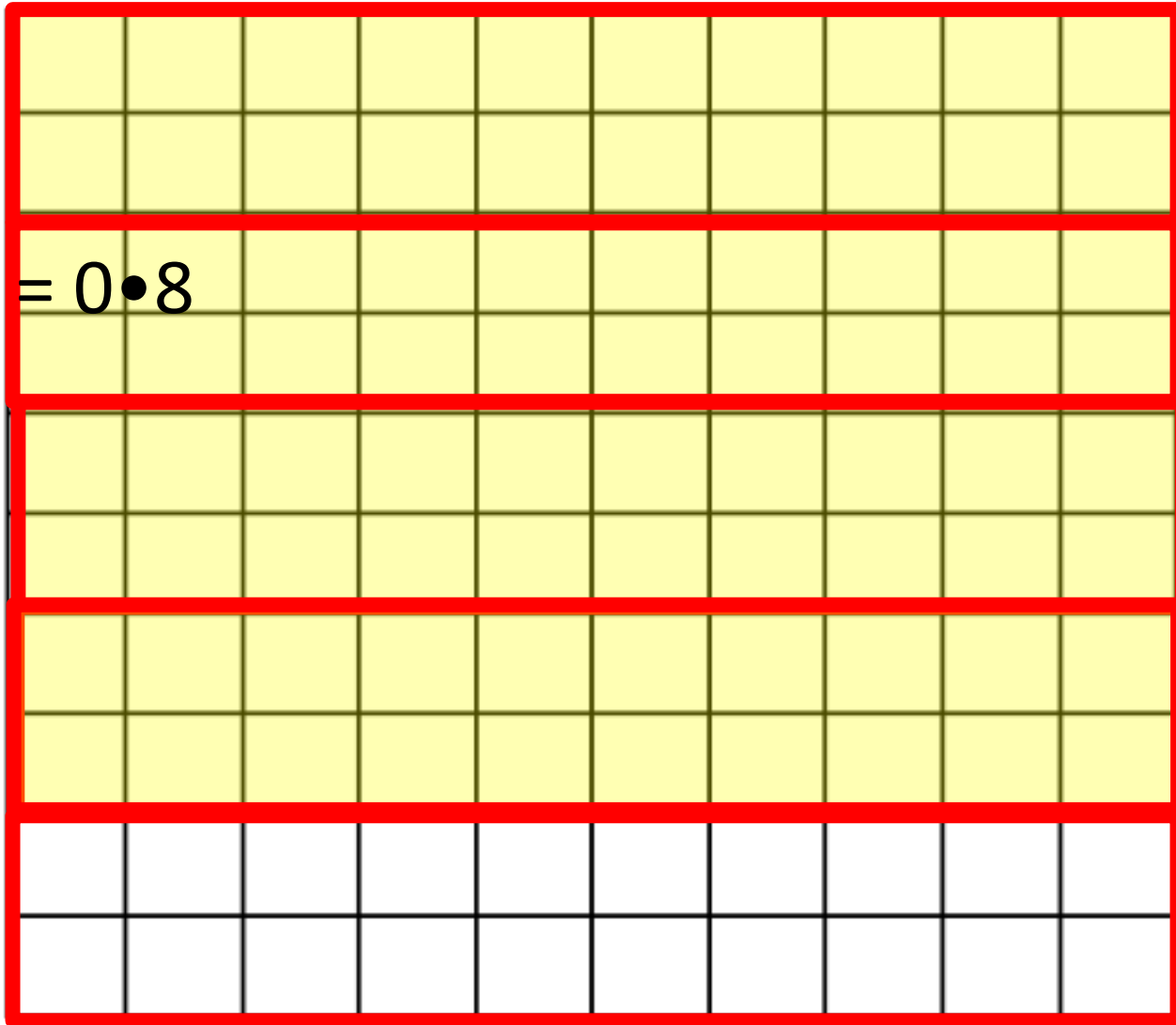
$$\frac{3}{5} = 60\%$$

$$= 0.6$$



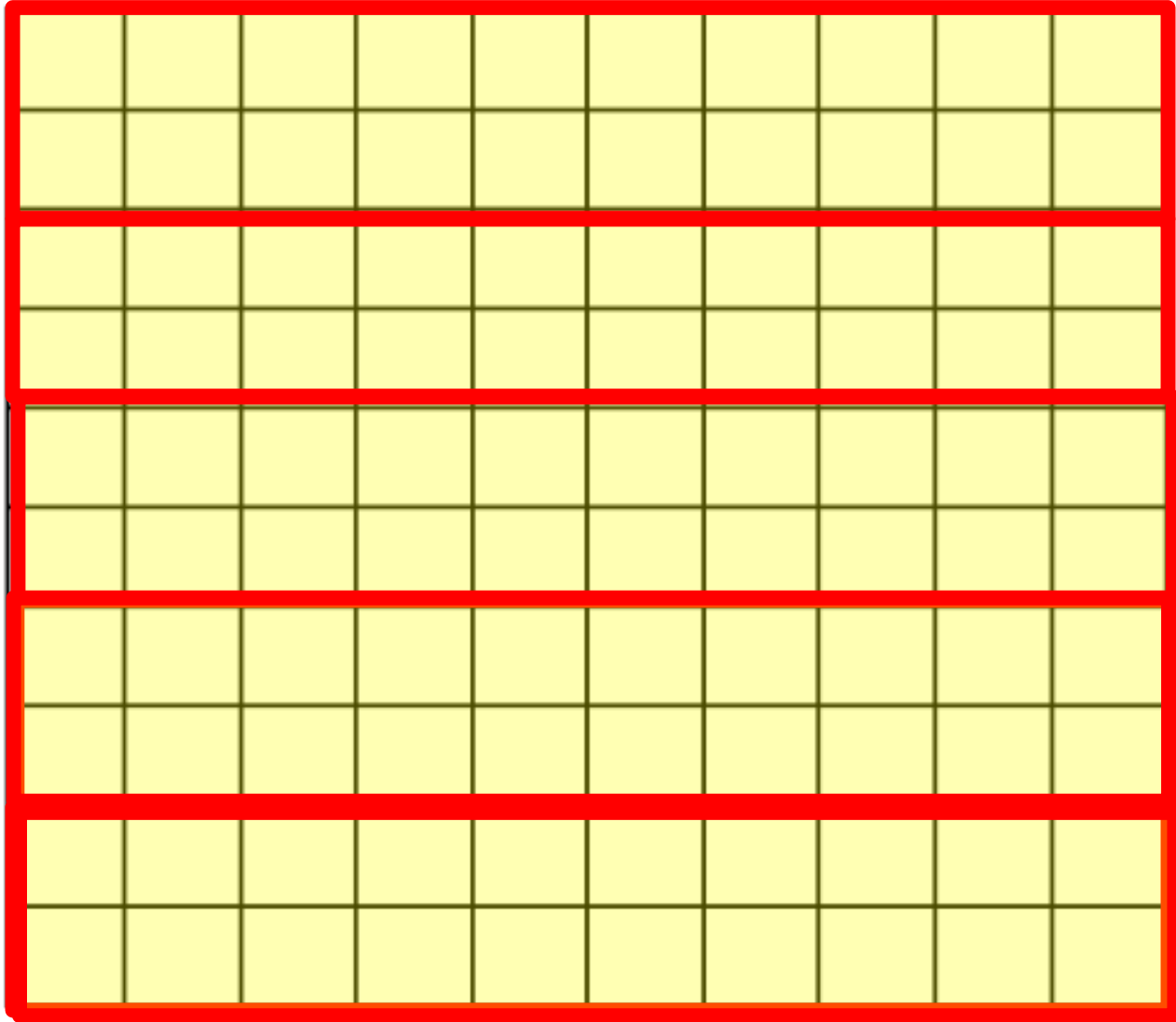
# The Big Grid= 100%

$$\frac{4}{5} = 80\% = 0.8$$

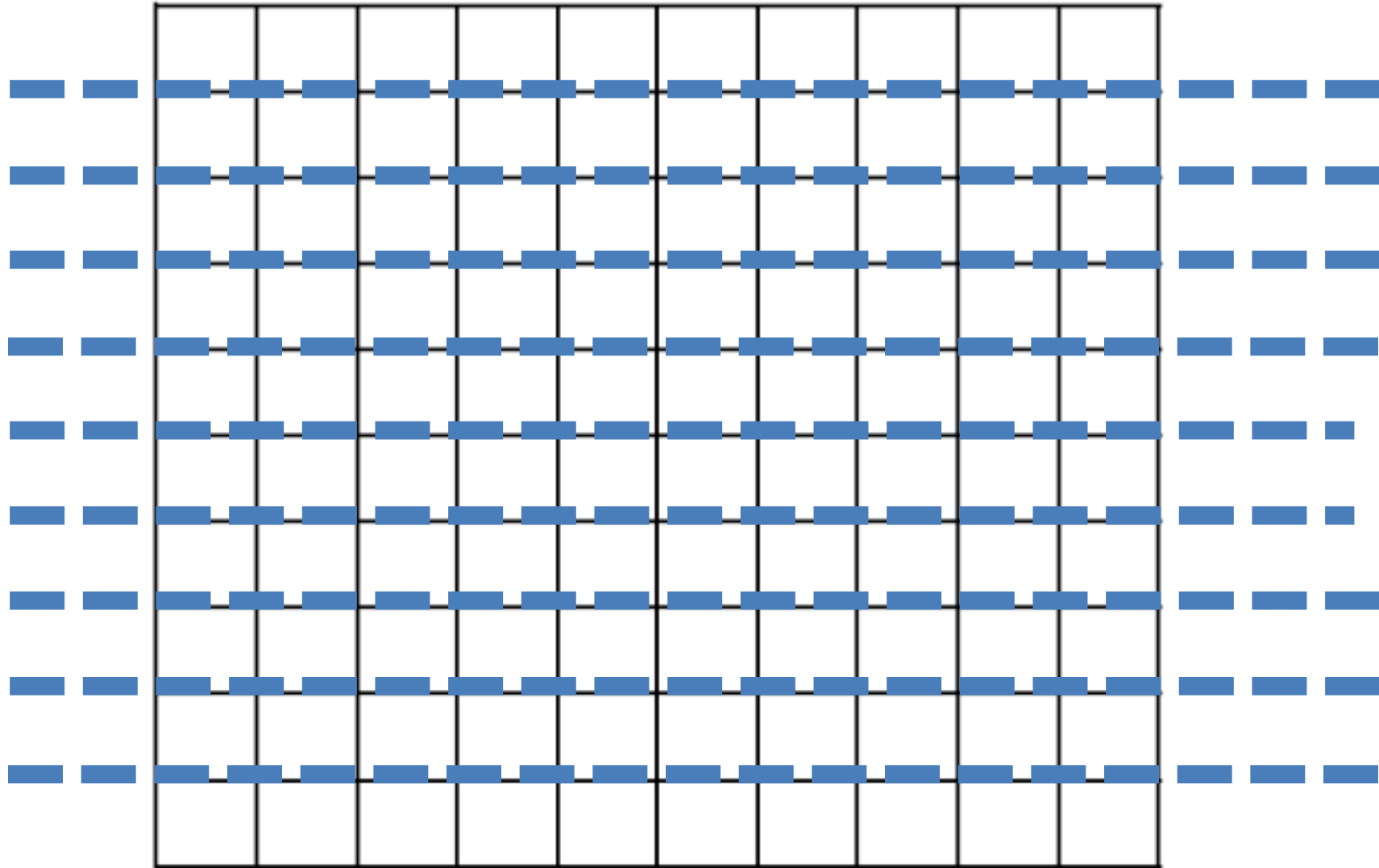


# The Big Grid= 100%

$$\frac{5}{5} = 100\%$$



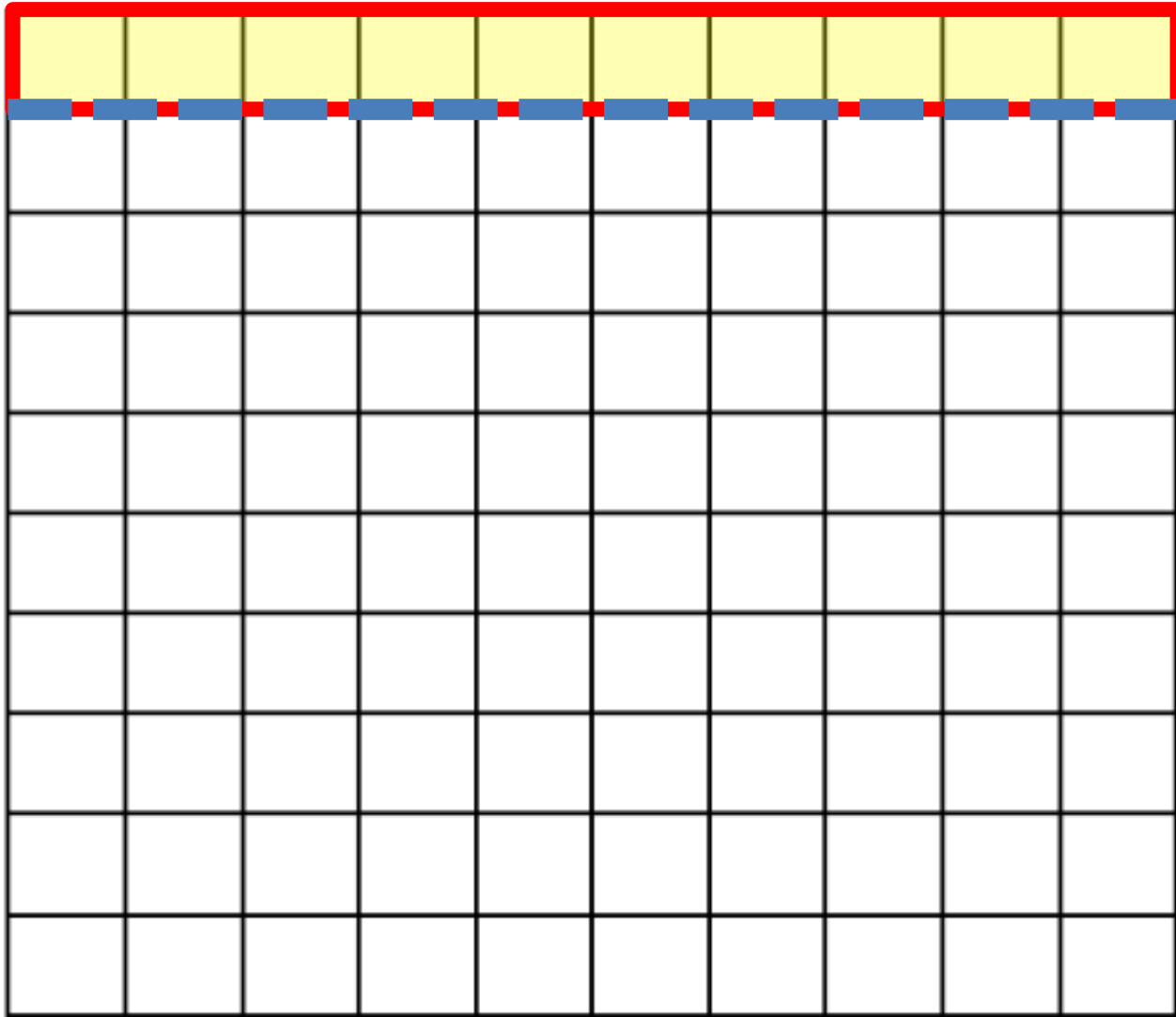
# The Big Grid = 100%



The Big Grid = 100%

$\frac{1}{10} = 10\%$

$\frac{9}{10} = 90\%$

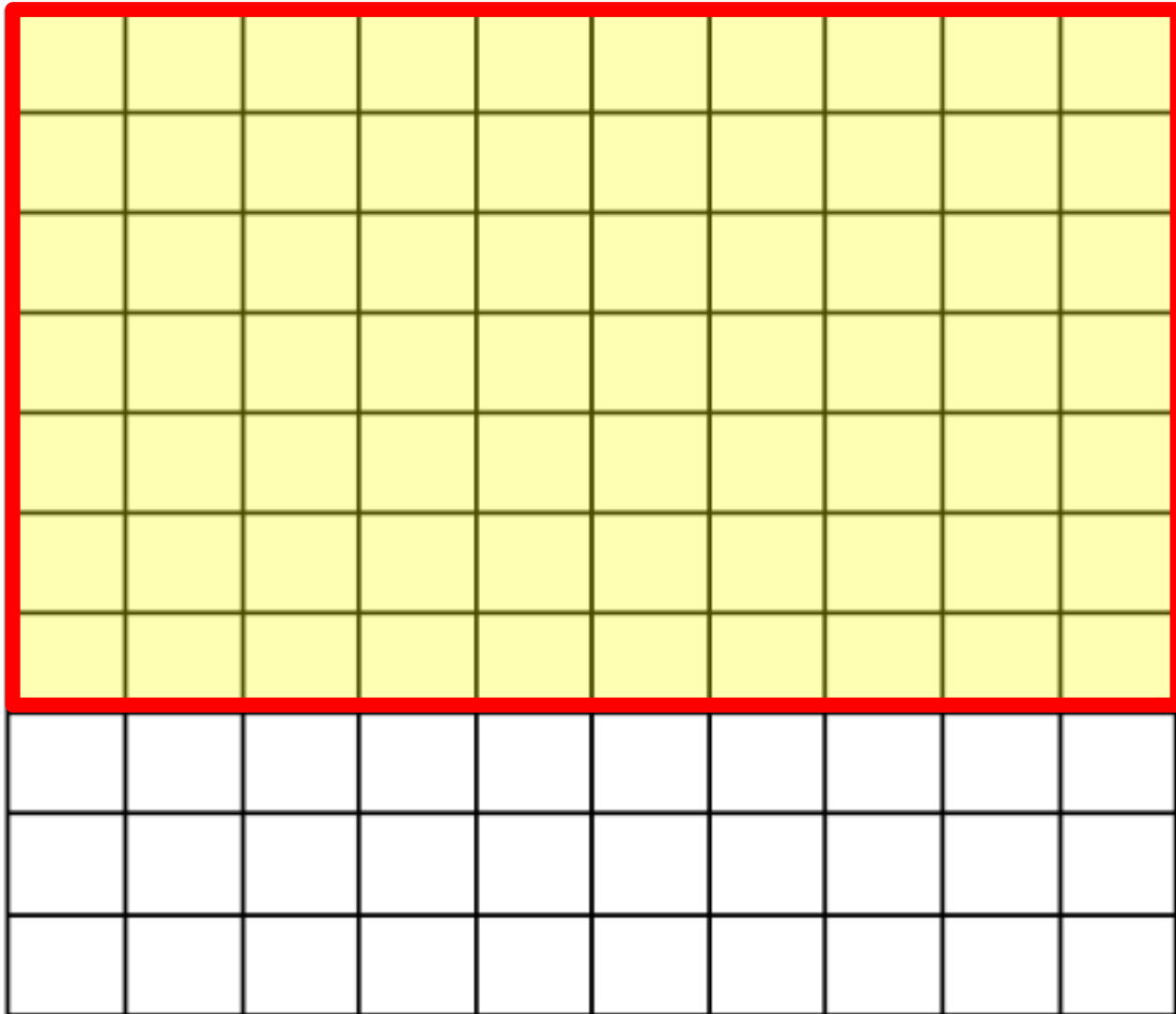




The Big Grid = 100%

$$\frac{7}{10} = 70\%$$

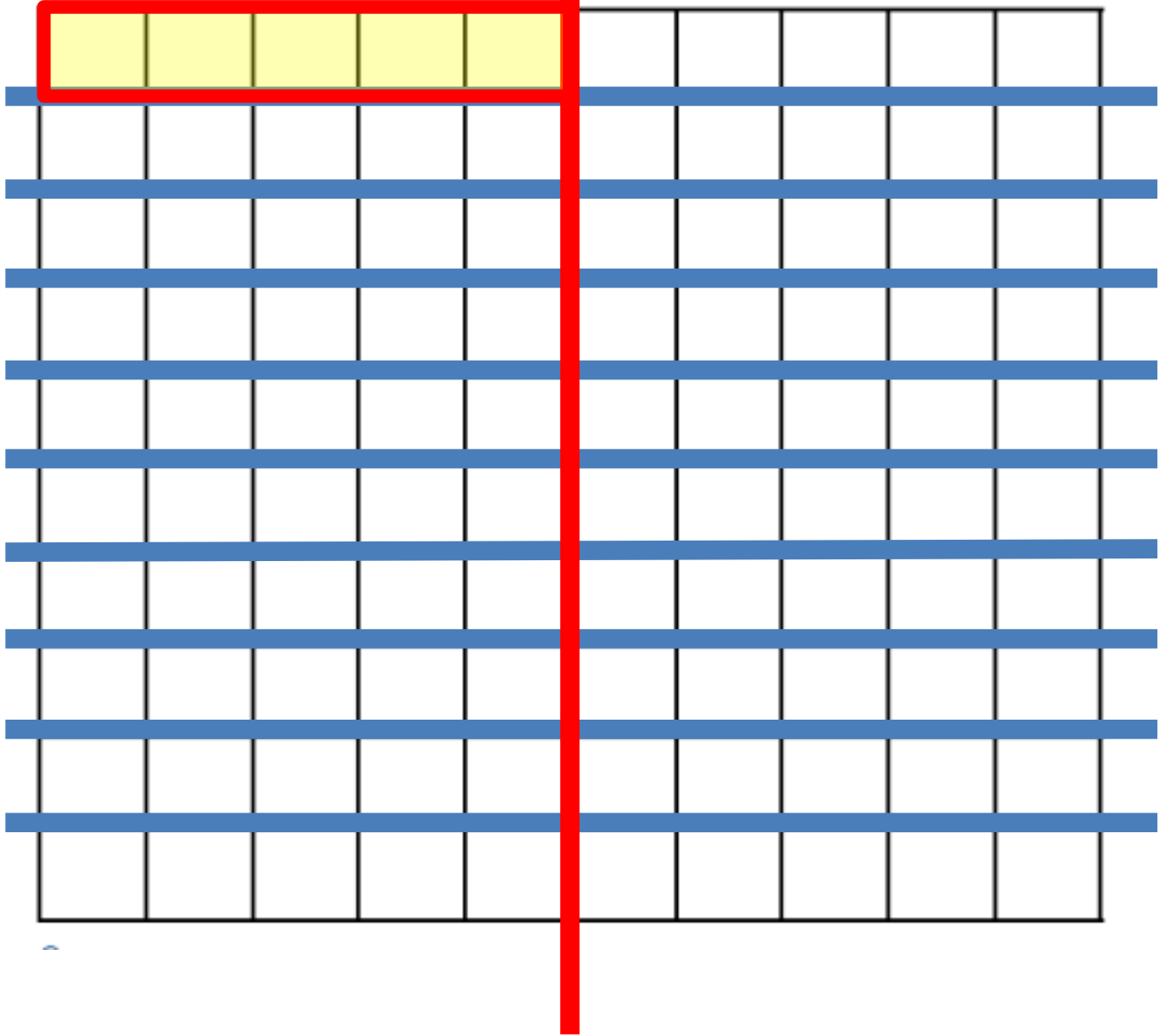
$$\frac{3}{10} = 30\%$$



The Big Grid = 100%

$$\frac{1}{20} = 5\% \\ = 0.05$$

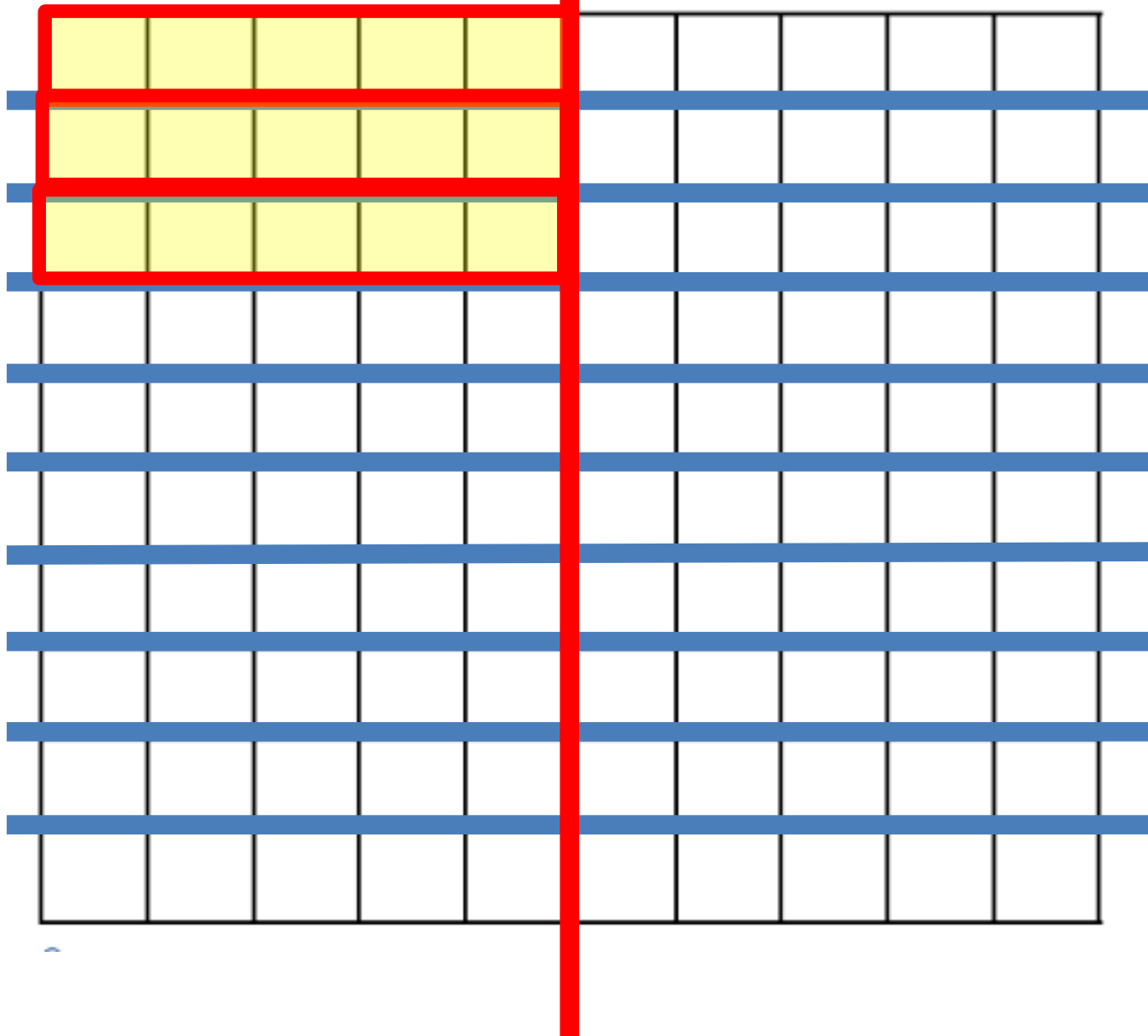
$$\frac{19}{20} = 95\%$$



The Big Grid = 100%

$$\frac{3}{20} = 15\%$$

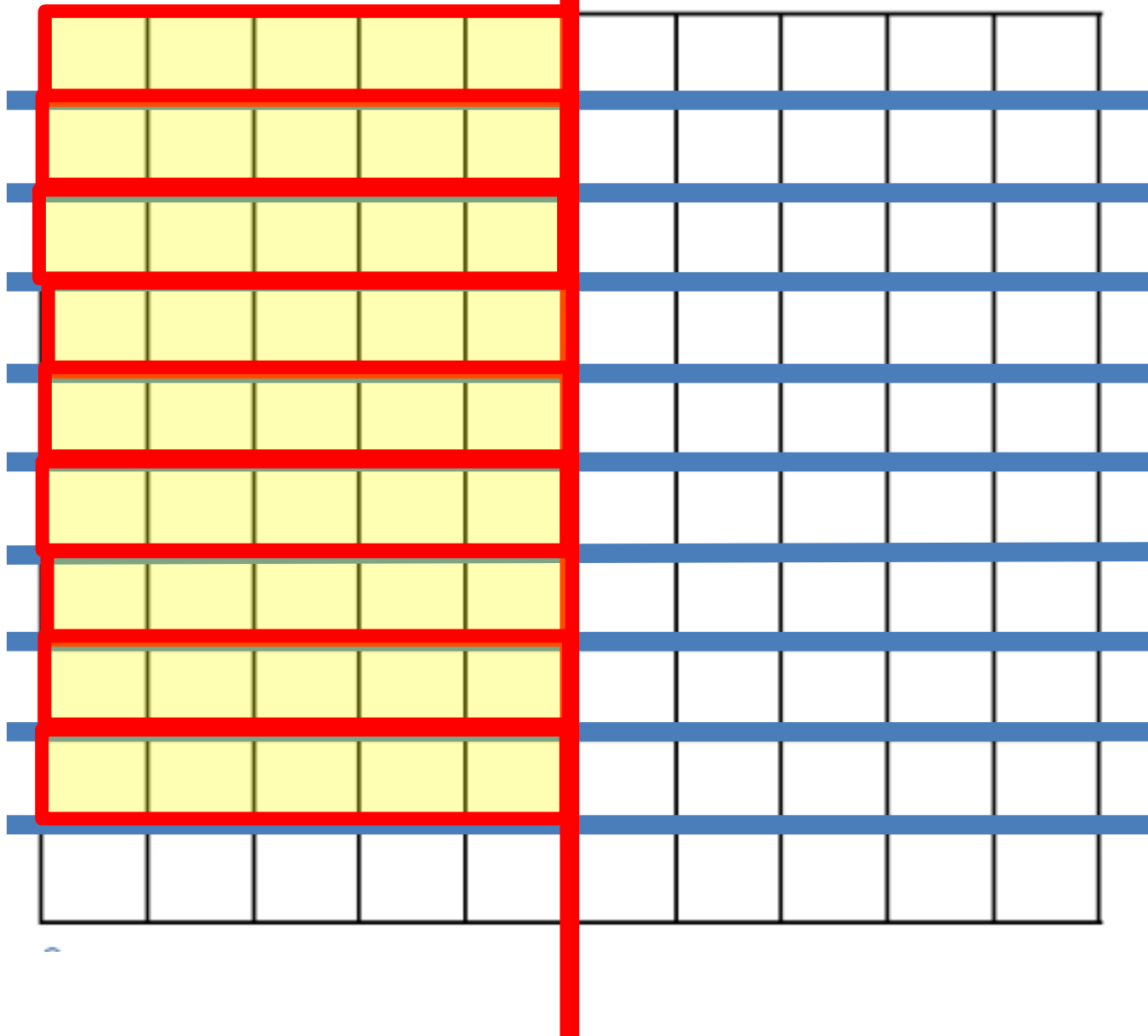
$$\frac{17}{20} = 85\%$$



The Big Grid = 100%

$$\frac{9}{20} = 45\%$$

$$\frac{11}{20} = 55\%$$







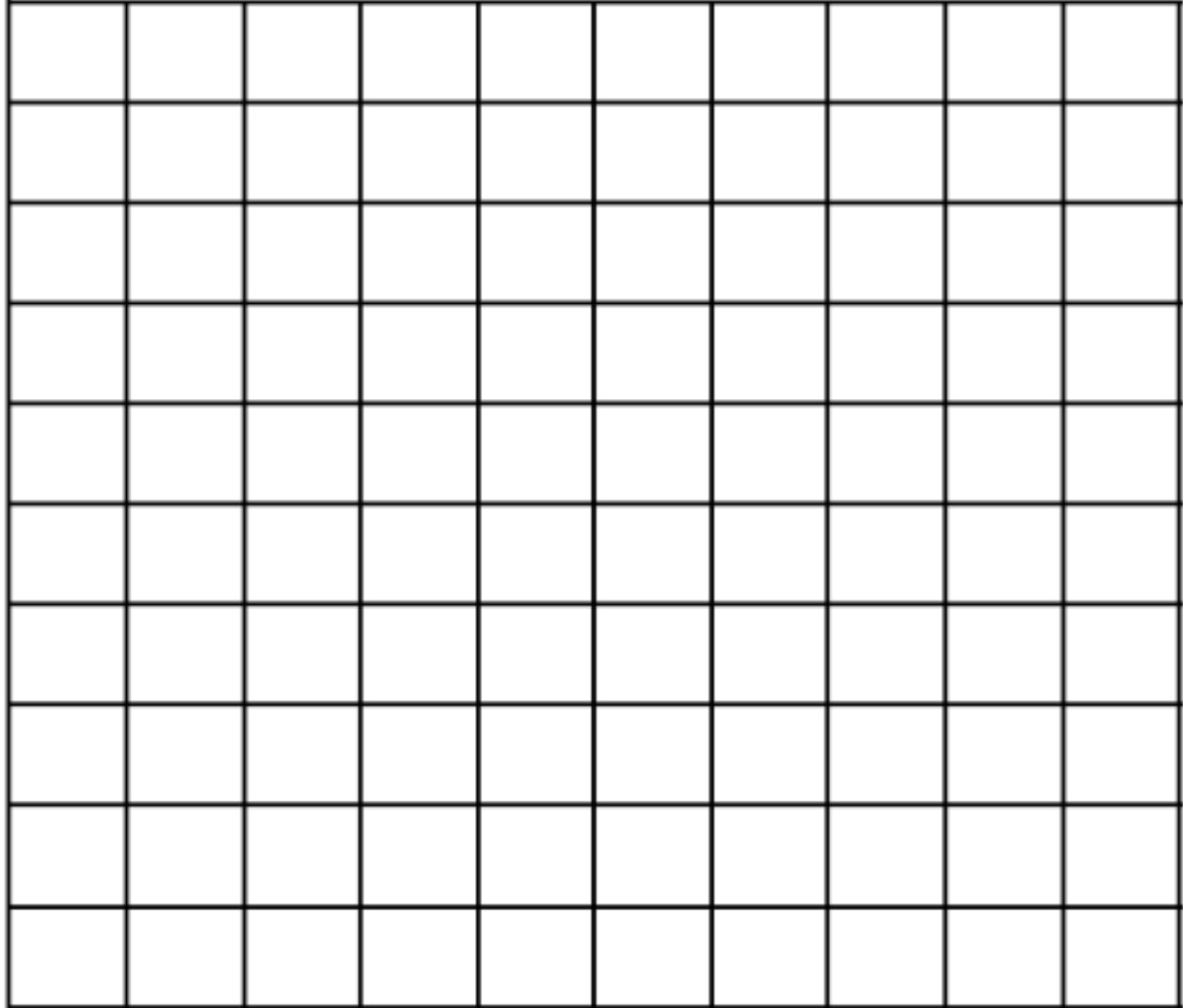






Convert  $\frac{36}{40}$  to a percentage

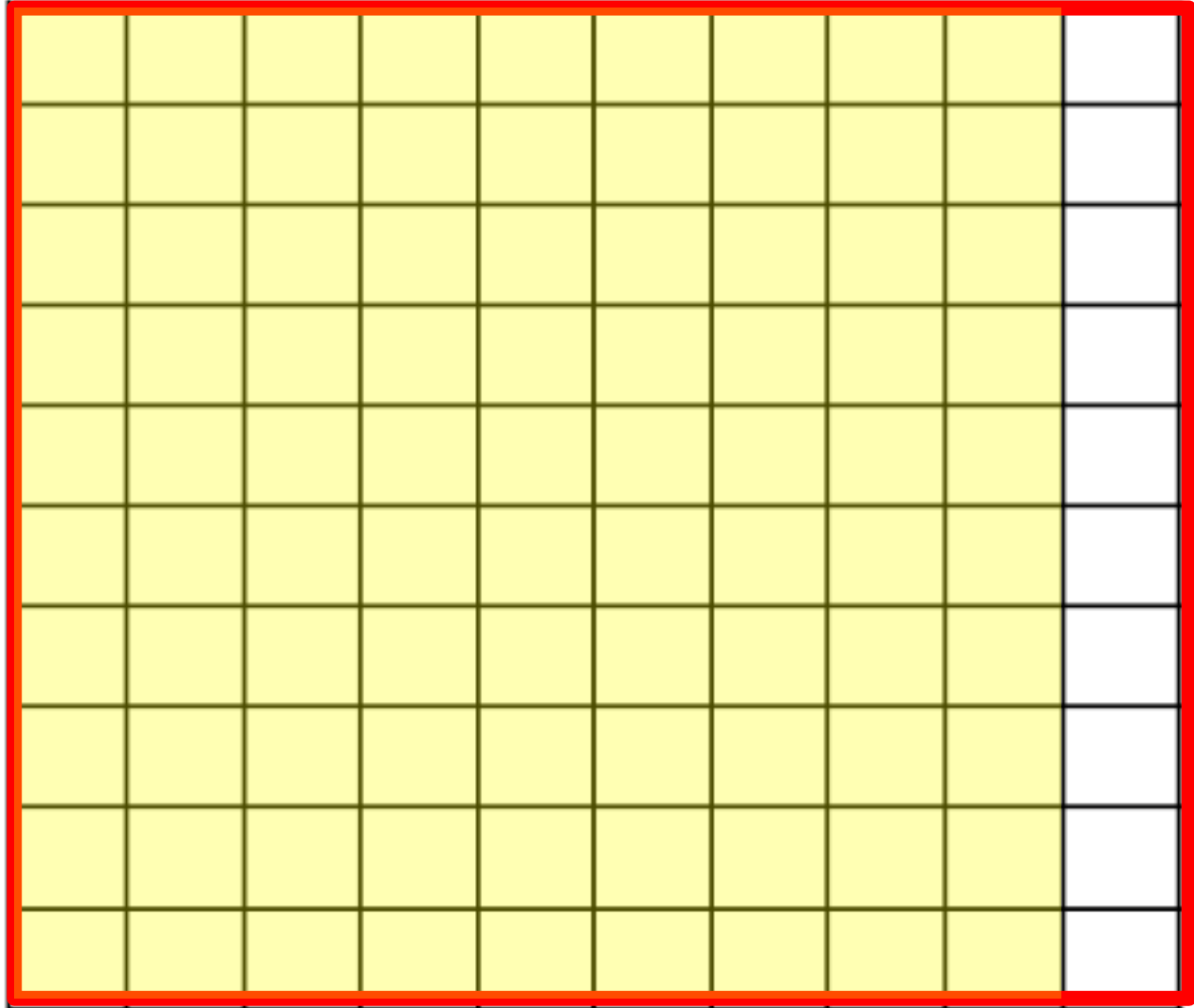
The Big Grid





Convert  $\frac{36}{40}$  to a percentage

The Big Grid



The following slides are now examples.

The Big Grid is used to focus in on the number we are finding the percentage value of.

## The Big Grid

50% of 20

=  $\frac{1}{2}$  of 20

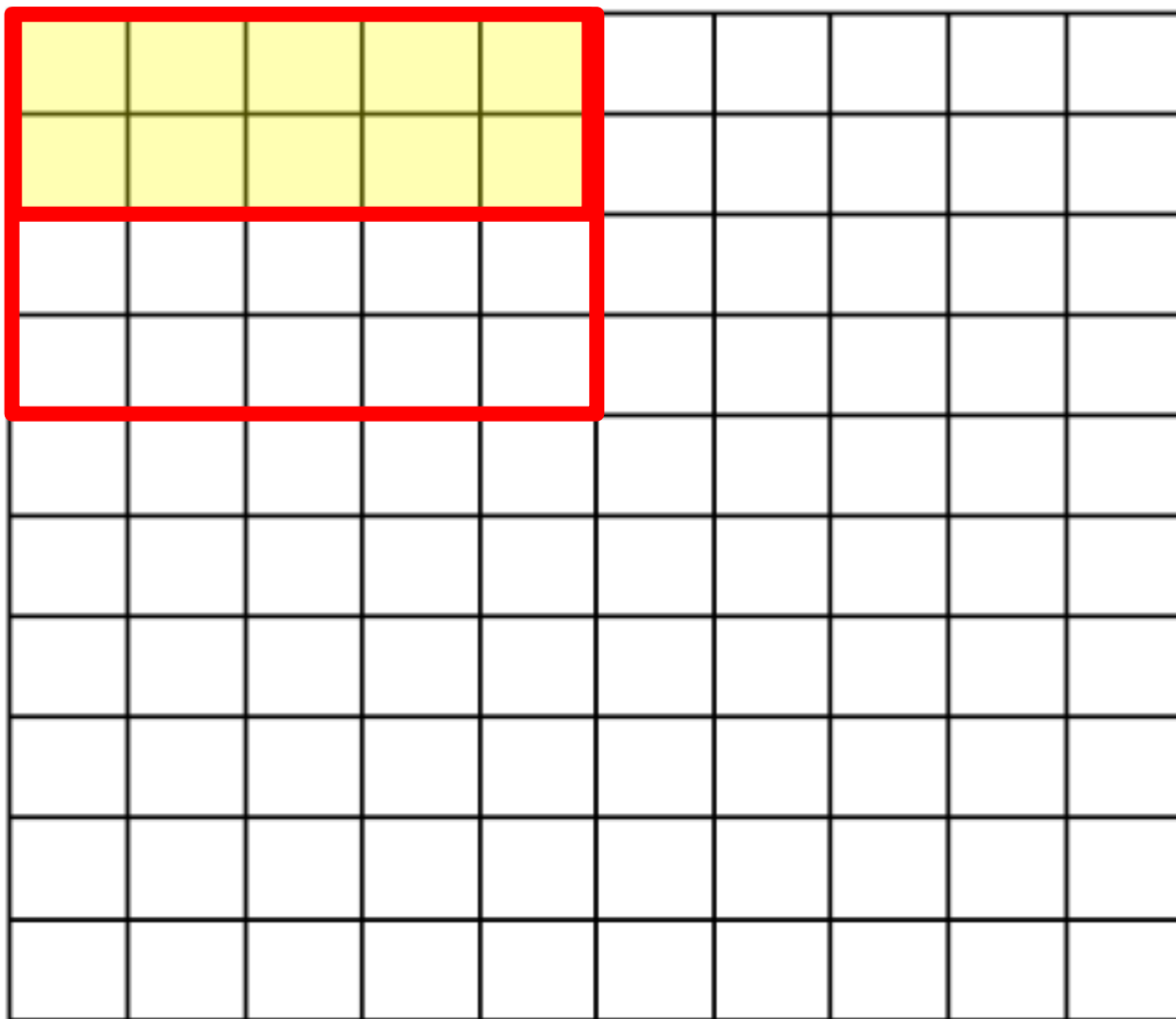
make a rectangle  
with 20 boxes  
(4 by 5 or 2 by 10)

Shade  $\frac{1}{2}$  yellow

The yellow section is  
10 boxes

50% of 20 = 10

$$20 \div 2 = 10$$



## The Big Grid

25% of 20

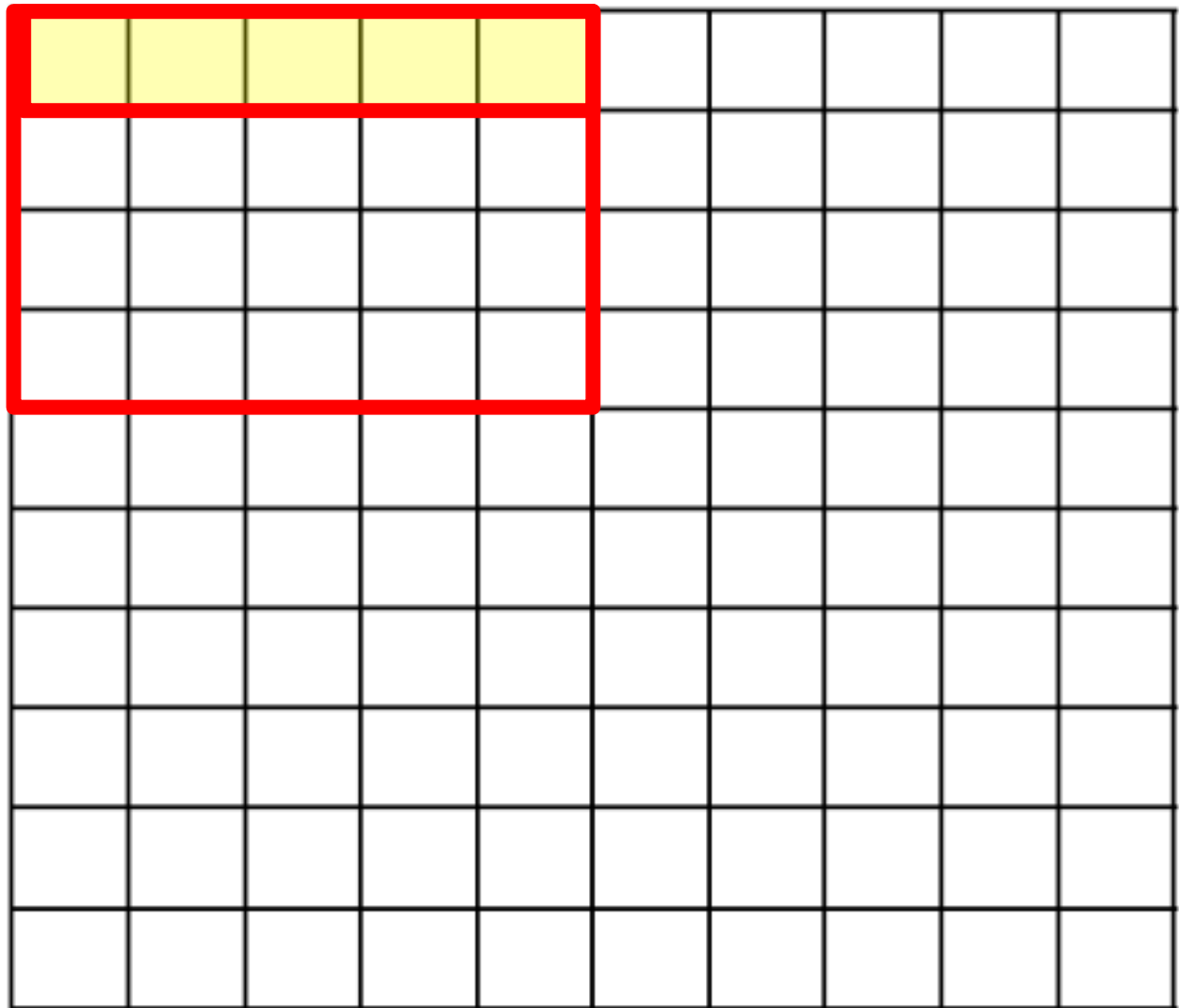
=  $\frac{1}{4}$  of 20

make a rectangle  
with 20 boxes  
(4 by 5)

Shade  $\frac{1}{4}$  yellow

The yellow section is  
5 boxes

$\frac{1}{4}$  of 20 = 5



$$20 \div 4 = 5$$

## The Big Grid

75% of 20

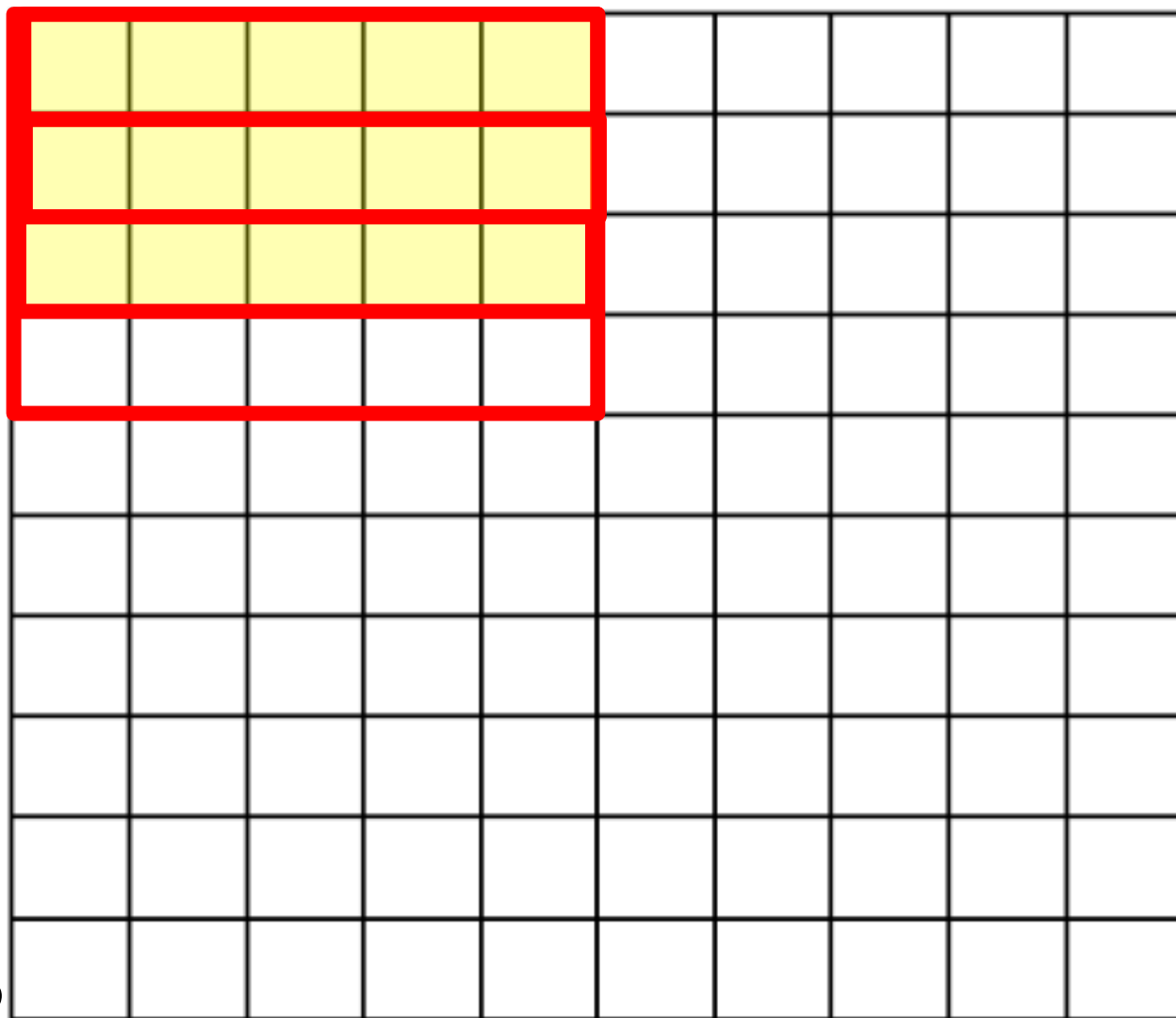
=  $\frac{3}{4}$  of 20

make a rectangle  
with 20 boxes  
(4 by 5)

Shade  $\frac{3}{4}$  yellow

The yellow section is  
15 boxes

75% of 20 = 15



$$20 \div 4 \times 3 = 15$$

## The Big Grid

10% of 30

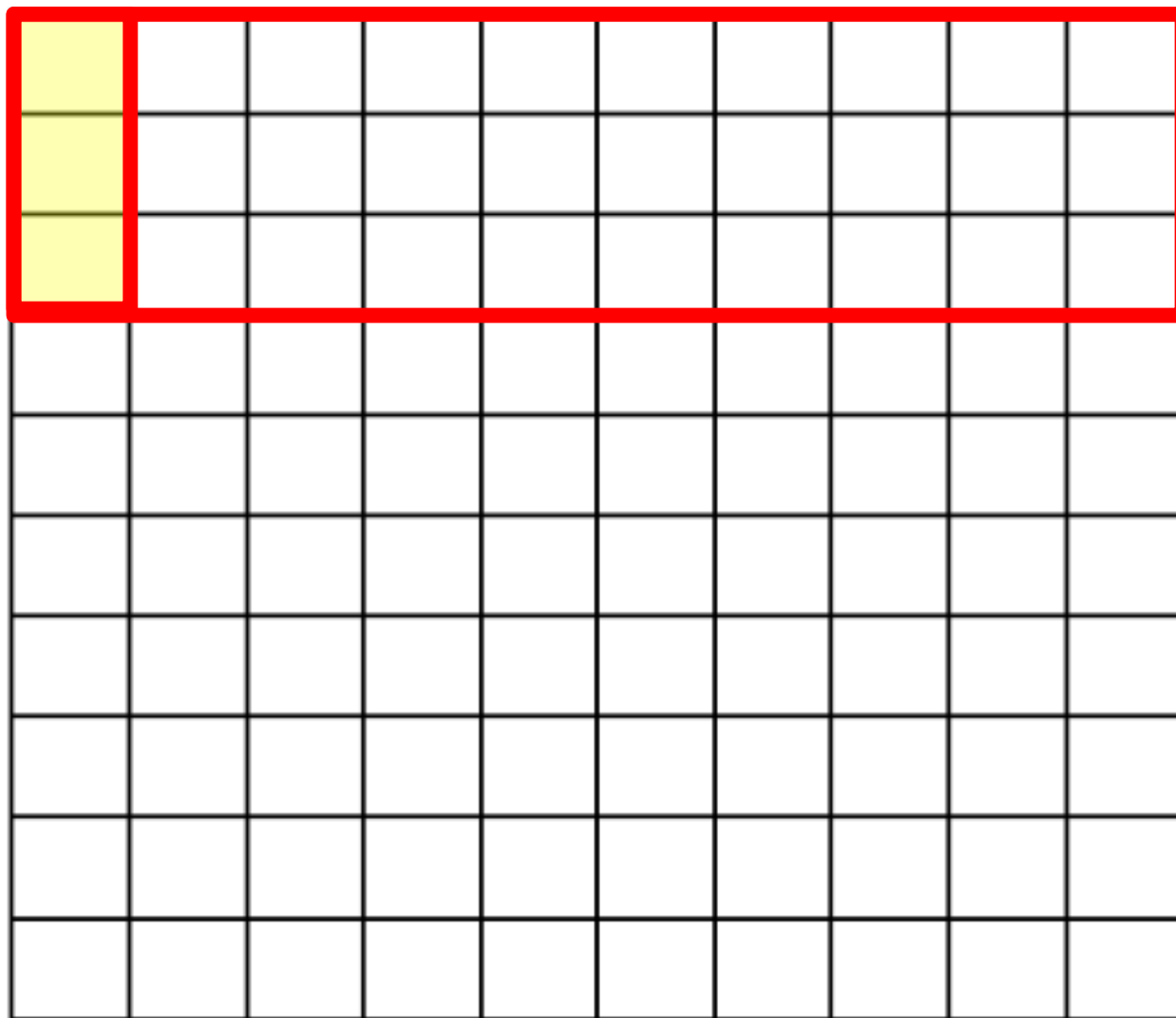
=  $\frac{1}{10}$  of 30

make a rectangle  
with 30 boxes  
(3 by 10)

Shade 1/10 yellow

The yellow section is  
3 boxes

10% of 30 = 3



$$30 \div 10 = 3$$



## The Big Grid

30% of 40

=  $\frac{3}{10}$  of 40

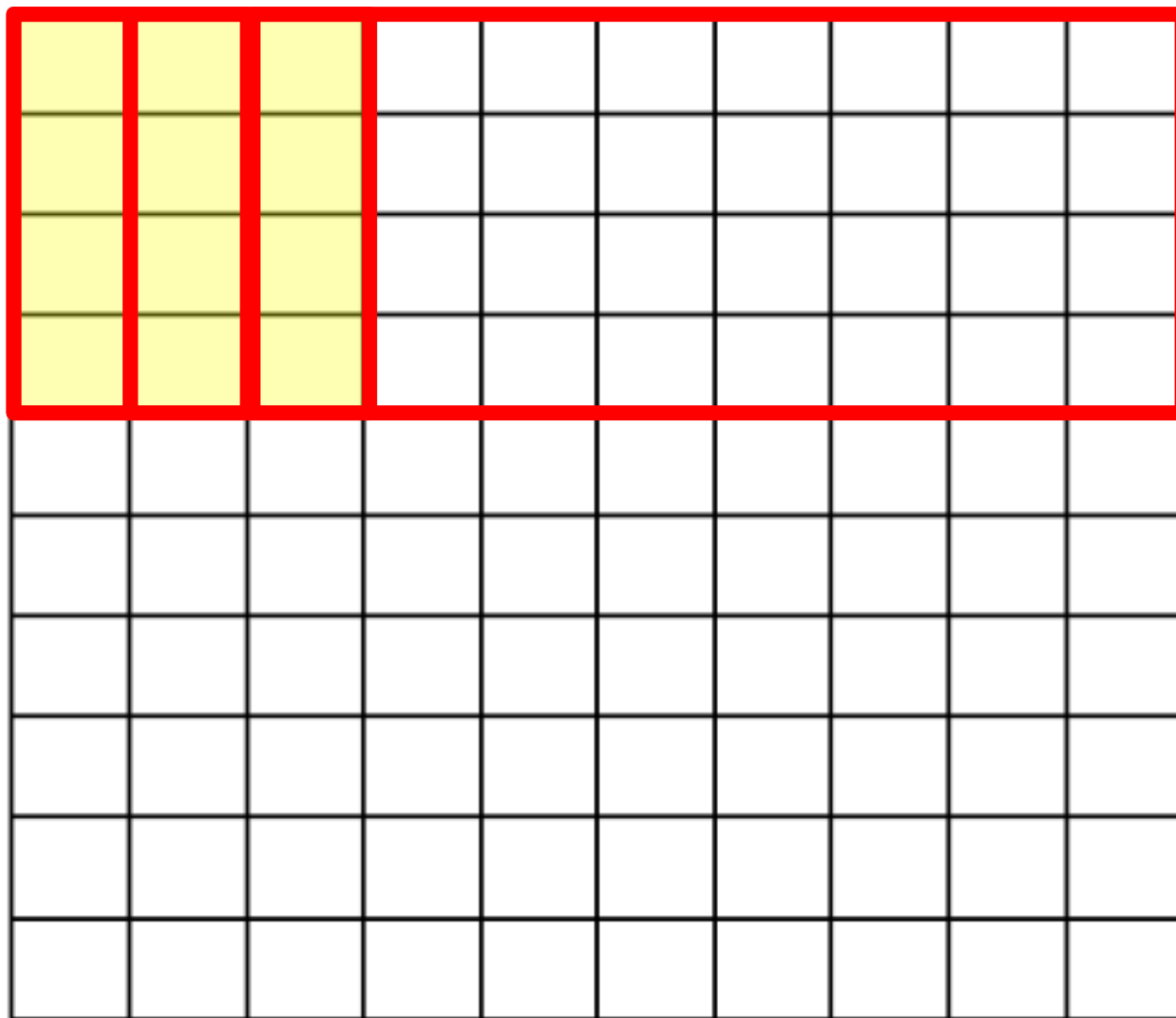
make a rectangle  
with 40 boxes  
(3 by 10)

Shade  $\frac{3}{10}$  yellow

The yellow section is  
12 boxes

30% of 40 = 12

$$40 \div 10 \times 3 = 12$$



## The Big Grid

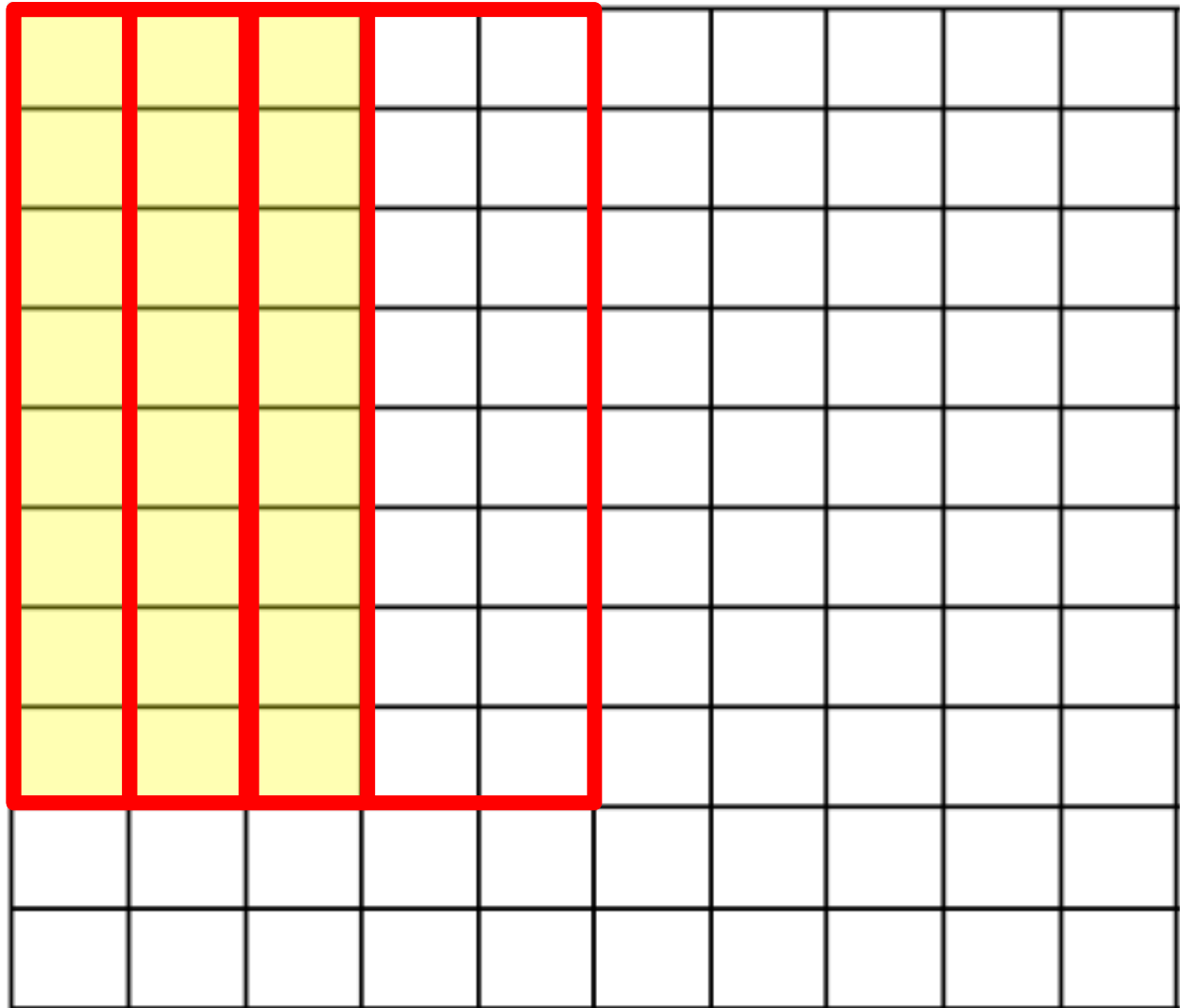
60% of 40

=  $\frac{3}{5}$  of 40

make a rectangle  
with 40 boxes  
(5 by 8)

Shade  $\frac{3}{5}$  yellow

The yellow section is  
24 boxes



60% of 40 = 24

Always other strategies

The Big Grid

60% of 40

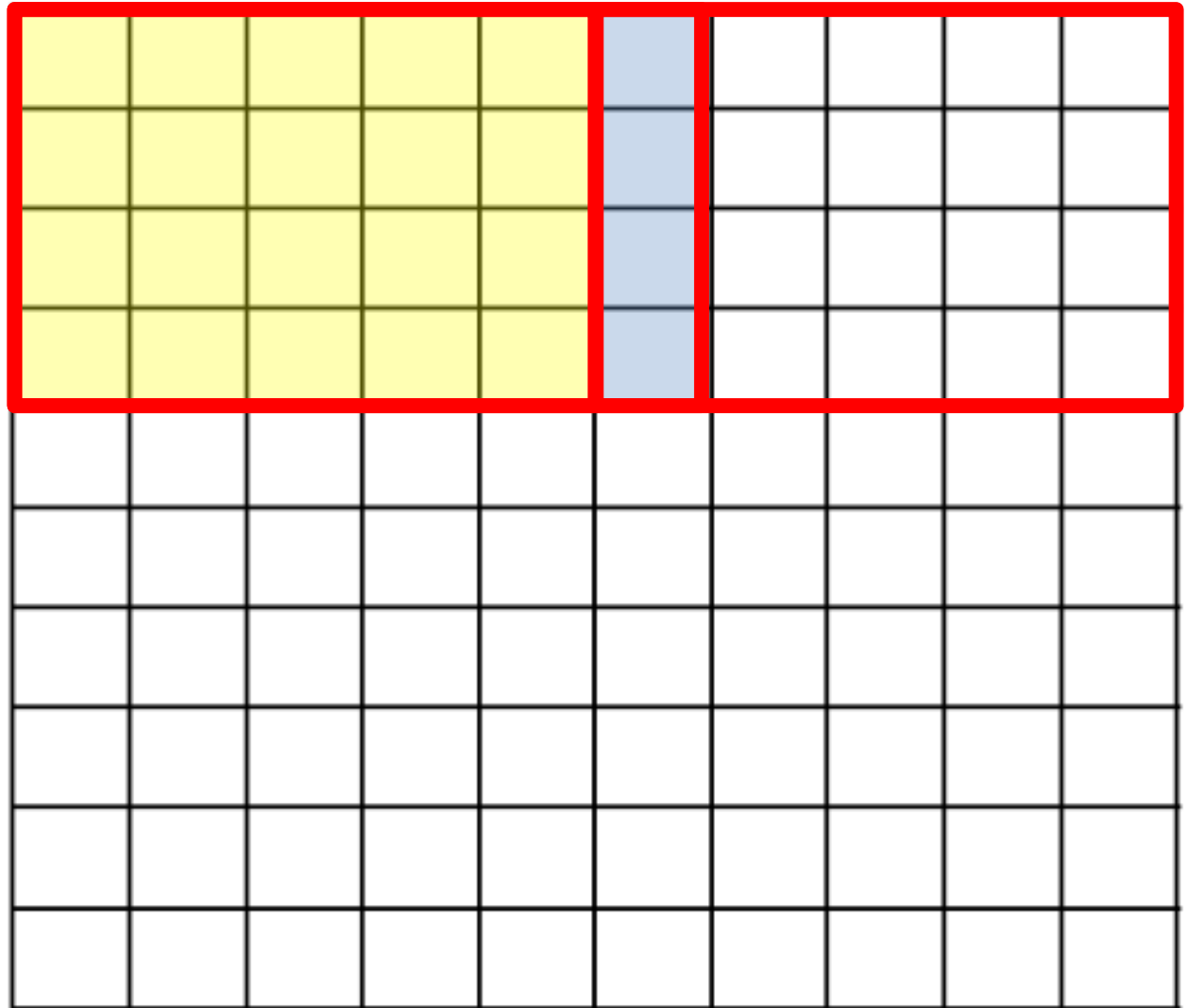
= 50% of 40

= 20

= 10% of 40

= 4

60% of 40 = 24

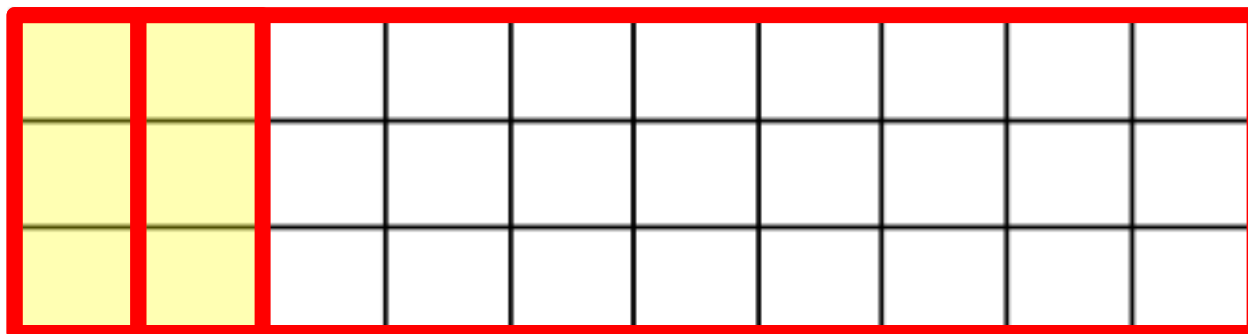


Want to know a very neat fact  
about percentages.

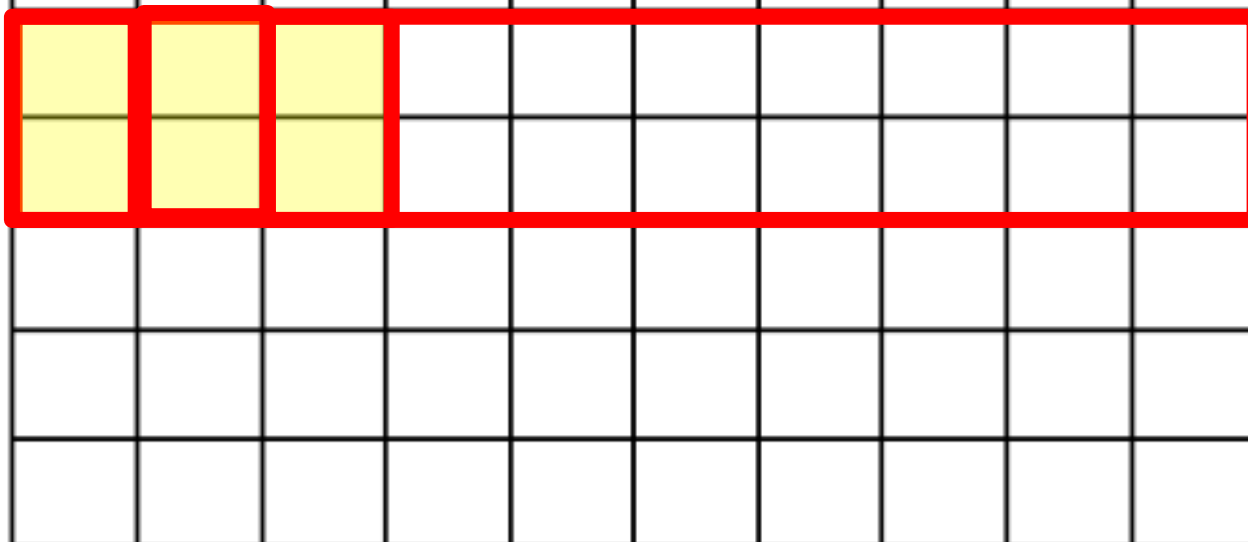
Let us investigate!!

## The Big Grid

$$20\% \text{ of } 30 \\ = 6$$

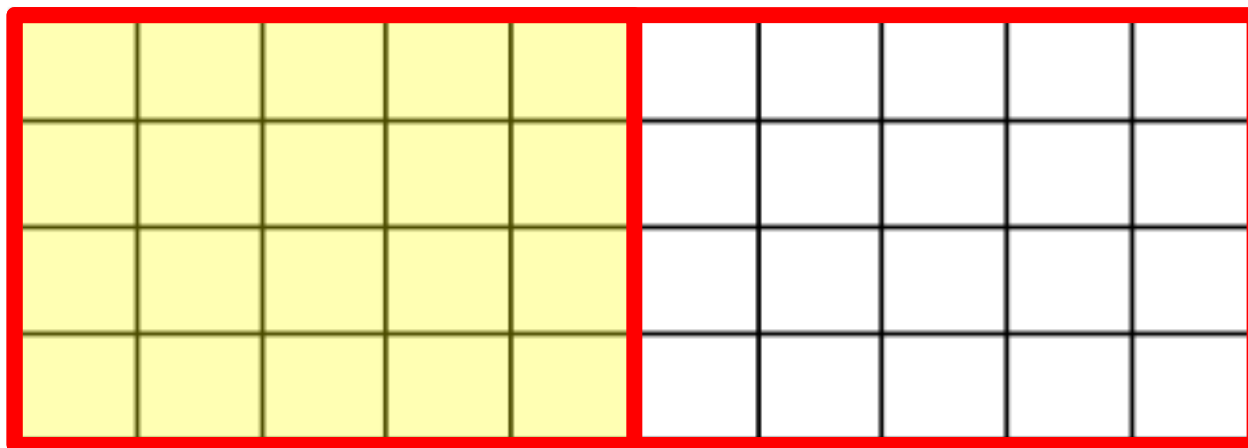


$$30\% \text{ of } 20 \\ = 6$$

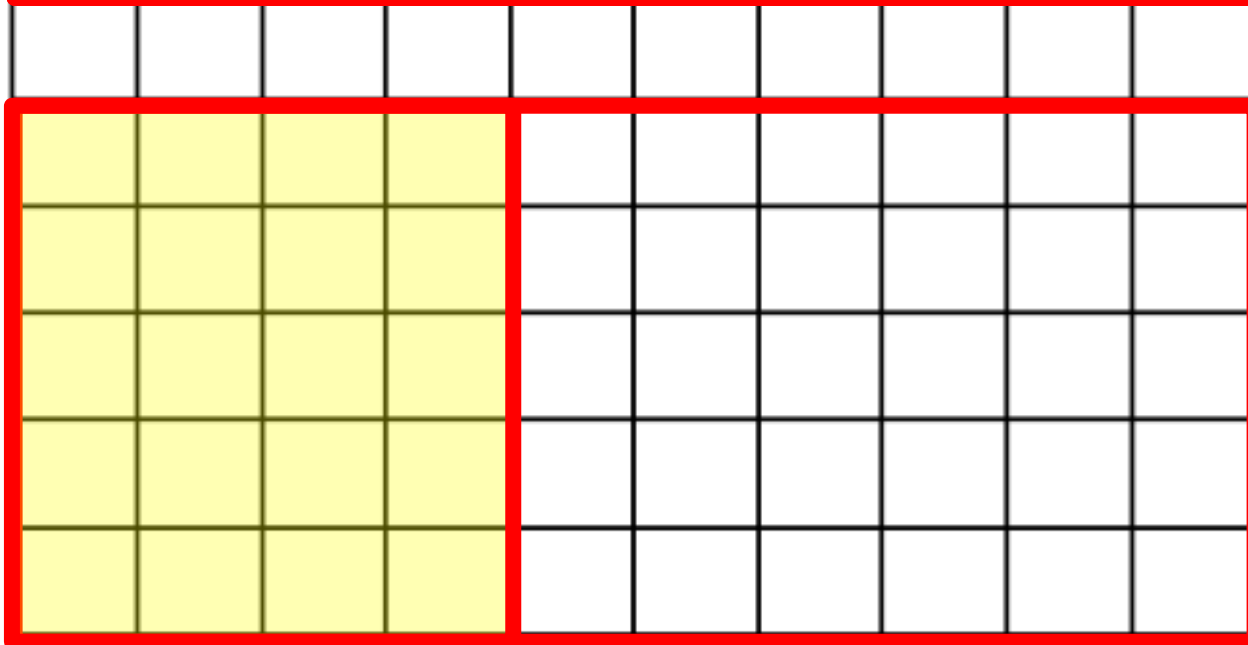


## The Big Grid

$$50\% \text{ of } 40 \\ = 20$$



$$40\% \text{ of } 50 \\ = 20$$



$$50\% \text{ of } 18 = 9$$

$$18\% \text{ of } 50 = 9$$

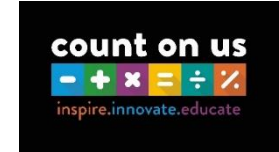
$$24\% \text{ of } 50 = 12$$

$$50\% \text{ of } 24 = 12$$



$$28\% \text{ of } 25 = 7$$

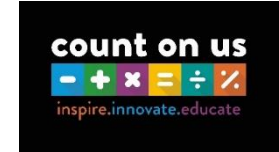
$$25\% \text{ of } 28 = 7$$



Slides and resources at

[www.countonus.org.uk/learning-together/](http://www.countonus.org.uk/learning-together/)

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# Thank You!

To help us continue to represent parents views, understand yours and your child's experiences of maths and numeracy, and to continue to improve the delivery of these sessions, we would appreciate your feedback.

<https://www.surveymonkey.co.uk/r/learningtogetherfeedback>



*With support from Education Scotland and Scottish Government, building on themes emerging from the 'Making Maths Count' Group report*



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