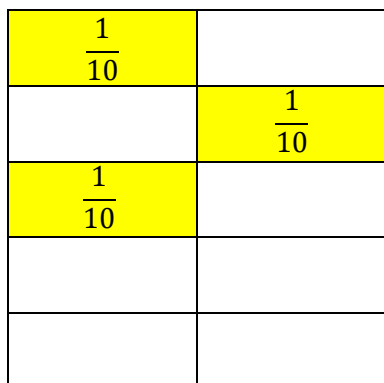


Decimals as fractions

Monday 11th May 2020

First of all, a quick reminder from the last time we looked at decimals as fractions. Here's a square divided into 10 equal parts (tenths);



Three tenths have been shaded in.

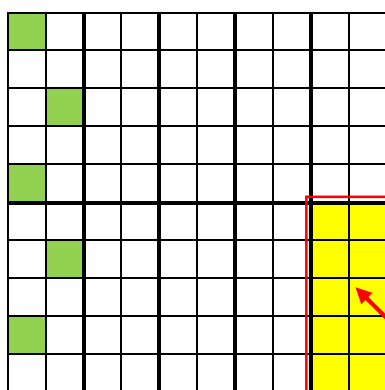
$$\frac{1}{10} + \frac{1}{10} + \frac{1}{10} = \frac{3}{10}$$

Because the denominators are the same, we can simply count, 1, 2, 3.

ones dp tenths
0 • 3

So, $\frac{3}{10}$ is the same as 0.3.

Here's another square, divided into 100 equal parts (hundredths)



Five hundredths have been shaded in.

$$\frac{1}{100} + \frac{1}{100} + \frac{1}{100} + \frac{1}{100} + \frac{1}{100} = \frac{5}{100}$$

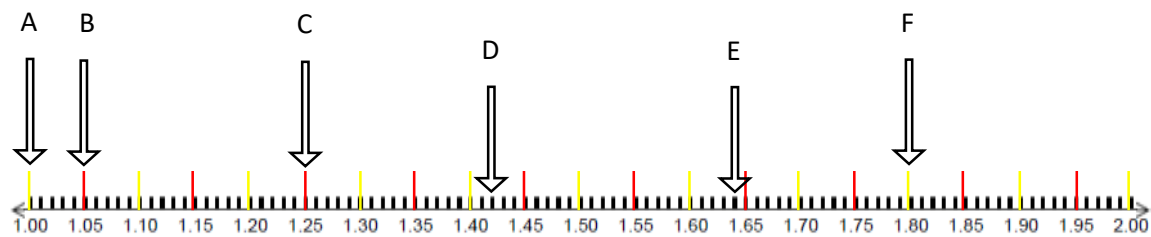
Because the denominators are the same, we can simply count, 1, 2, 3, 4, 5.

ones dp tenths hundredths
0 • 0 5

So, $\frac{5}{100}$ is the same as 0.05.

We should also remember that there are 10 hundredths inside each tenth, so 1 tenth = 10 hundredths.

A number line can also be used to show decimal fractions. This line shows 1 to 2 and is divided into 100 equal parts (hundredths);



A = 1

One

B = 1.05

One and five hundredths

C = 1.25

One, two tenths and five hundredths

D = 1.42

One, four tenths and two hundredths

E = 1.64

One, six tenths and four hundredths

F = 1.8

One and eight tenths

We can describe these decimal numbers and fractions in different ways, for example using concrete methods (like place value counters), digits, fractions, mixed numbers, and words, like this;

Concrete	Decimal	Decimal – expanded form	Fraction	Fraction – expanded form	In words
	3.24	$3 + 0.2 + 0.04$	$3 \frac{24}{100}$	$3 + \frac{2}{10} + \frac{4}{100}$	Three ones, two tenths and four hundredths.