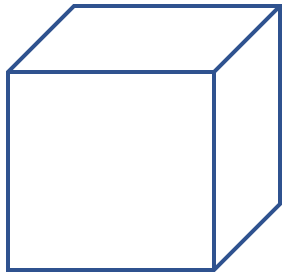
L2 FDP Fractions Decimals and……?

Learning Objective

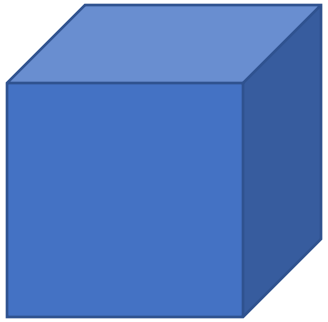
- Identify and know the *equivalence* between fractions decimals and percentages

Recap



You want to paint the outside of a cube.

Non Calc: Work out the total surface area of a cube of height 1.5 m



The volume of a cube is 125 cm^3 what is its height ?

Reminder: What is a Fraction ?

A Fraction represents a part of a whole or more generally, any number of **equal parts**.

Reminder: Parts of a fraction

$$\frac{3}{4}$$

Tip: Get used to using the proper terminology when discussing problems involving Fractions, it will help you become more accurate and precise in using mathematical language to solve problems
(move to notes tripane below?)

Types of fractions/numbers

$\frac{3}{4}$

Proper

$\frac{4}{3}$

Improper

$1\frac{1}{4}$

Mixed Number

Mixed number to Improper fractions

$2\frac{1}{2}$ $3\frac{2}{3}$ $7\frac{6}{7}$

Improper fractions to *Mixed Number*

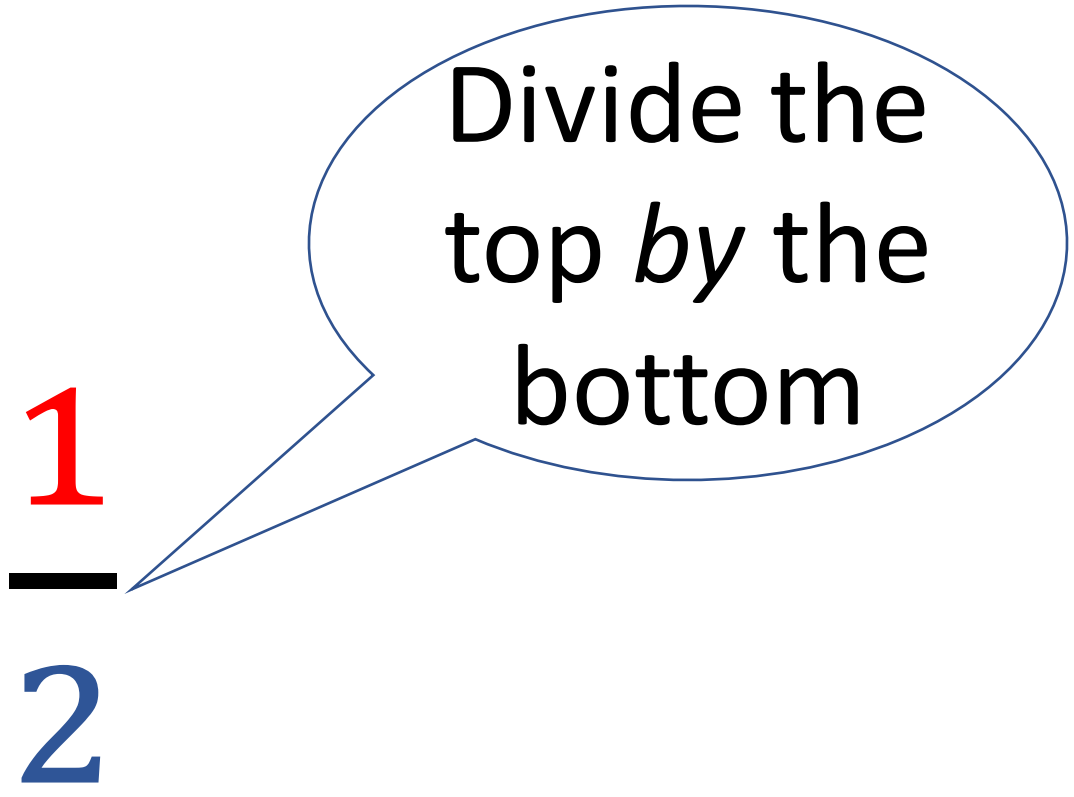
$\frac{3}{2}$ $\frac{17}{6}$ $\frac{22}{7}$

The Vinculum

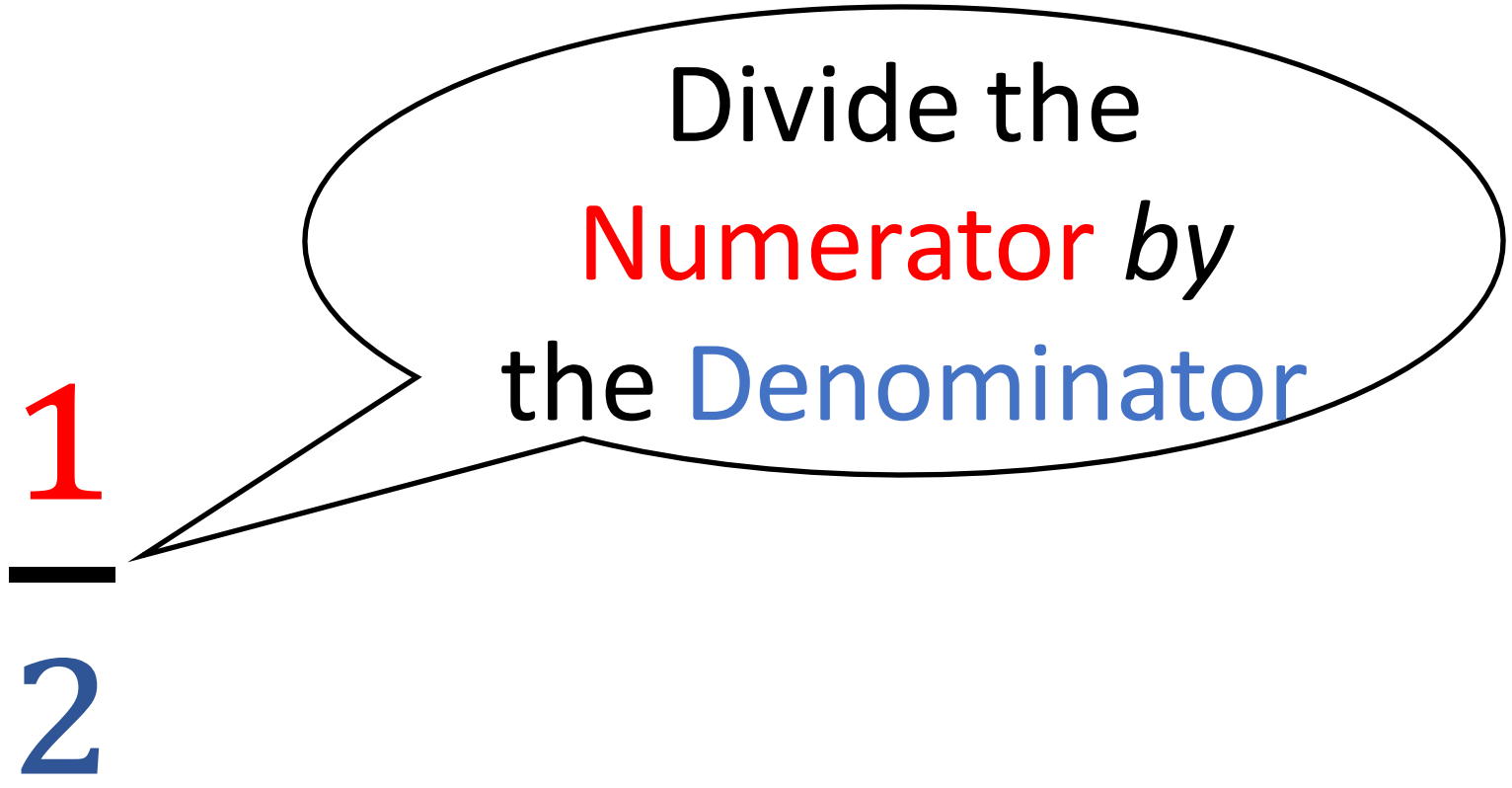
$\frac{1}{2}$ ← The line between is called the **Vinculum**

If the Vinculum could talk, what would it say?

Turning a fraction into a decimal



Turning a fraction into a decimal



Getting it the right way around…

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

$$1 \div 2 \quad \text{or} \quad 2 \div 1 \quad ?$$

Getting it the right way around

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

$$1 \div 2 \quad \text{or} \quad 2 \div 1 \quad ?$$

$$0.5 \quad \text{or} \quad 2 \quad ?$$

Getting it the right way around

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

$$\frac{1}{2} \neq 2$$

Convert the following into decimals

$\frac{3}{2}$ $\frac{17}{6}$ $\frac{22}{7}$

Converting into decimals

$3 \div 2$	$17 \div 6$	$22 \div 7$
1.5	2.833…	3.1428

%

Recap: What does the word Percent mean?

What does % mean ?

Percent

Per Cent

Per 100

Over a hundred

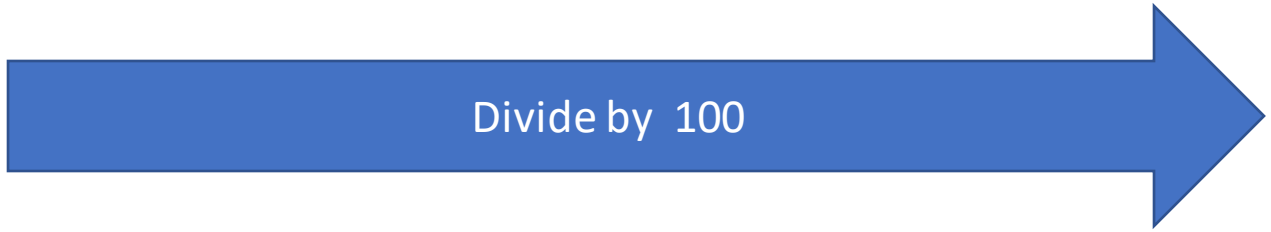
25%

25 Per Cent

25 Per 100

$$\frac{25}{100}$$

Percentage to Fraction to Decimal



$$25\,\% = \frac{25}{100} = 0.25$$

Converting a fraction into a percentage

$\frac{2}{50}$ $\frac{3}{10}$ $\frac{4}{5}$

Converting a decimal into a fraction

0.8

0.03

0.15

Fraction	Decimal	Percentage
	0.5	
$\frac{3}{4}$		
$\frac{2}{5}$		
		12.5%
$\frac{7}{8}$		
		70%
	0.33	33%
$1\ \frac{1}{4}$		

Equivalency table answers

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	**50%**
$\frac{3}{4}$	**0.75**	**75%**
$\frac{2}{5}$	**0.4**	**40%**
$\frac{1}{8}$	**0.125**	12.5%
$\frac{7}{8}$	**0.875**	**87.5%**
$\frac{7}{10}$	**0.7**	70%
$\frac{1}{3}$ or $\frac{33}{100}$	0.33	33%
$1\frac{1}{4}$	**1.25**	**125%**

Write $\frac{4}{5}$ as a percentage.

Write 0.6 as a percentage.

Write $\frac{7}{100}$ as a decimal.

Write $\frac{4}{50}$ as a percentage.

Write $\frac{9}{10}$ as a decimal.

Write 0.3 as a percentage.

Write 0.31 as a fraction.

Write 3% as a fraction.

Calculator

Here are four fractions.

$$\frac{2}{5} \qquad \frac{11}{30} \qquad \frac{1}{2} \qquad \frac{7}{15}$$

Write these fractions in order of size.
Start with the smallest fraction.

Put $\frac{2}{5}$, 0.3 and 25 % in order of size, smallest first.

Calculator

Aaron scored 17 out of 25 in a test.
Write this score as a percentage.

A Table Tennis Club has 150 members.
96 of the members are adults and the rest are children.

(a) What percentage of the club's members are adults?

Petra also has this information about the arrival times of trains last week.

Arrival times	on time	up to 10 minutes late	more than 10 minutes and up to 30 minutes late	more than 30 minutes late
Number of trains	287	54	17	5

The train company has a target

98% of trains must arrive no more than 10 minutes late.

Was the target met last week?
Show why you think this. **(3)**

Calculator

Rick is the manager of an outdoor swimming pool.
He carries out a survey of regular early morning swimmers.

He puts the results of his survey into a data collection sheet.

	Men		**Women**	
	under 60 years of age	age 60 years and over	under 60 years of age	age 60 years and over
swim once a week	38	56	14	52
swim 2 - 3 times a week	24	48	42	56
swim more than 3 times a week	11	25	22	62

Rick works out that 27% of these swimmers swim more than 3 times a week.

Is Rick correct?
Justify your answer. **(3)**

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