

Maths, Year 5, Autumn 2



What I will know by the end of the Autumn 1 term

Arithmetic 1	I can calculate two or three 4 digit whole numbers vertically with more than one tricky column (add and sub) - 3 decimal places. I can multiply two vulgar fractions where the denominator of one is equal to the numerator of the other.
Geometry	I can name and draw acute, obtuse, reflex and right angles. I can name and calculate opposite angles and supplementary angles. I can use a protractor to draw acute, obtuse, reflex and right angles.
Data & Measure	I can identify metric and non-metric units of measure including pints, inches, feet etc. I can convert between metric and imperial units.
Arithmetic 2	I can distinguish between factors and proper factors. I can use $\leq$ / $\geq$ with whole integers (including negative whole numbers).
Reasoning	I can solve algebraic equations including sum of two terms (one being X). I can solve algebraic equations including difference of two terms (one being X). I can solve algebraic equations including a product of one term (one being X)
Additional Coverage	I can identify the value of underlined digits with a number e.g. 34. <u>6</u> 5 is 46/10. I can give properties of angles within drawn polygons including convex and concave. I can complete mental arithmetic involving Roman Numerals

Useful Links

<https://www.mymaths.co.uk/>

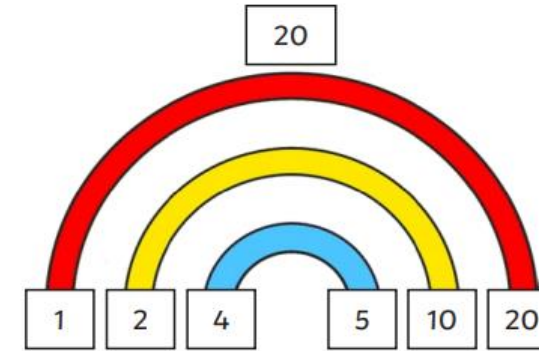
<https://play.ttrockstars.com/auth/school/student/64764>

<https://www.bbc.co.uk/teach/supermovers/ks2-maths-collection/z7frpg8>

<https://home.oxfordowl.co.uk/maths/primary-multiplication-division/help-with-times-tables/>

Factors

A factor is a number that divides into another number exactly, without leaving a remainder.



The factors of 20 are 1, 2, 4, 5, 10 and 20.

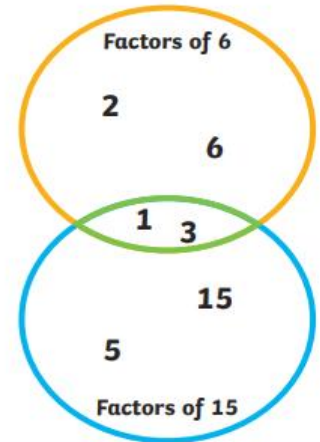
The factor pairs are:

1 and 20

2 and 10

4 and 5

A common factor is a factor of 2 or more numbers.



Roman Numerals

	I = 1	II = 2	III = 3	
IV = 4	V = 5	VI = 6	VII = 7	VIII = 8
IX = 9	X = 10	XI = 11	XX = 20	XXX = 30
XL = 40	L = 50	LX = 60	LXX = 70	LXXX = 80
XC = 90	C = 100	CL = 150	CC = 200	CCC = 300
CD = 400	D = 500	DC = 600	DCC = 700	DCCC = 800
CM = 900	M = 1000	MC = 1100	MD = 1500	MM = 2000

Useful Vocabulary

Decimal point/ place	A decimal point is a point, or dot, used to separate the whole part of a number from the fractional part.
Numerator	The top number on a fraction.
Denominator	The bottom number on a fraction.
Supplementary angle	Two angles whose sum is 180° .
Factor	Factors are numbers that divide exactly into another number. For example, the factors of 8 are: 1, 2, 4, 8. Factors can be shown in pairs.
Proper factor	All factors (see above) of a number other than 1 and the number itself.
Algebra	Numbers and quantities (called variables) are represented by letters and symbols.
Polygon	A polygon is a flat two-dimensional shape with straight sides that are fully closed. The sides must be straight, not curved. However, polygons can have any number of sides.

Identifying Angles

Acute Angles

Any angle that measures less than 90° is called an **acute** angle.



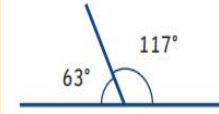
Obtuse Angles

Any angle that measures greater than 90° and less than 180° is called an **obtuse** angle.

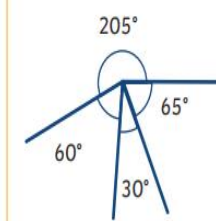


Reflex Angles

Any angle that measures greater than 180° is called a **reflex** angle.



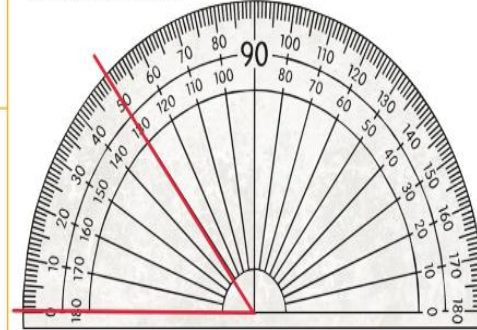
Angles on a straight line always total 180° .



Angles around a point always total 360° .

Measuring and Drawing Angles

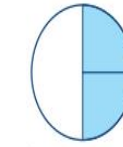
To measure angles, we use a protractor. Look carefully at how the numbers on the scale count from 0° to 180° in both directions.



Multiples of 90° can be used as descriptions of a turn.



$\frac{1}{4}$ turn = 90°



$\frac{1}{2}$ turn = 180°



$\frac{3}{4}$ turn = 270°



1 turn = 360°

Multiplying and Dividing by 10, 100 and 1000

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	3	8		
3	8			

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	0	3	8	
3	8			

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	0	0	3	8
3	8			

Rounding

Rounding to the nearest 10

20	21	22	23	24	25	26	27	28	29	30
round down					round up					

Rounding to the nearest 1000

2000	2499	2500	3000
round down		round up	

Rounding to the nearest 100 000

200 000	249 999	250 000	300 000
round down		round up	

Related Calculations

$$8 \times 9 = 72$$

$$80 \times 9 = 720$$

$$72 \div 9 = 8$$

$$720 \div 9 = 80$$

$$9 \times 8 = 72$$

$$90 \times 8 = 720$$

$$72 \div 8 = 9$$

$$720 \div 8 = 90$$

Converting Capacity



$\times 1000$

l

ml

$\div 1000$

$$1000\text{ml} = 1 \text{ litre}$$

$$\frac{1}{10} \text{ l} = 0.1 \text{ l} = 100\text{ml}$$

$$\frac{1}{4} \text{ l} = 0.25 \text{ l} = 250\text{ml}$$

$$\frac{1}{2} \text{ l} = 0.5 \text{ l} = 500\text{ml}$$

$$\frac{3}{4} \text{ l} = 0.75 \text{ l} = 750\text{ml}$$

$$\frac{1}{100} \text{ l} = 0.01 \text{ l} = 10\text{ml}$$

Converting Mass



$\times 1000$

kg

g

$\div 1000$

$$1000\text{g} = 1\text{kg}$$

$$\frac{1}{10} \text{ kg} = 0.1 \text{ kg} = 100\text{g}$$

$$\frac{1}{4} \text{ kg} = 0.25 \text{ kg} = 250\text{g}$$

$$\frac{1}{2} \text{ kg} = 0.5 \text{ kg} = 500\text{g}$$

$$\frac{3}{4} \text{ kg} = 0.75 \text{ kg} = 750\text{g}$$