Maths, Year 5, Autumn 2

What I will know by the end of the Autumn 2 term

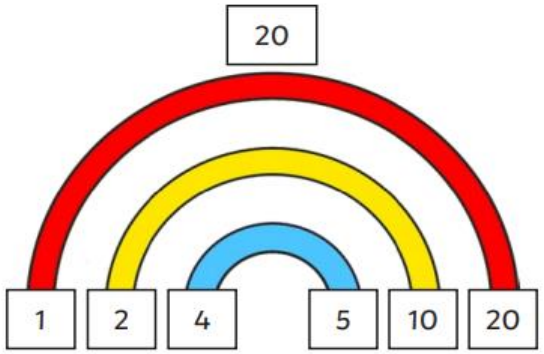
Arithmetic 1	I can calculate two or three 4 digit whole numbers vertically with more than one tricky column (add and sub) - 3 decimal places. I can multiply two vulgar fractions where the denominator of one is equal to the numerator of the other.
Geometry	I can name and draw acute, obtuse, reflex and 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 and ≤ / ≥ 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. 34.65 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

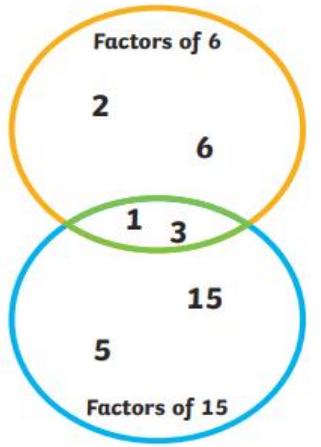
A factor is a number that divides into another number exactly, without leaving a remainder.



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

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



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.

Converting Capacity

×1000

l ml

÷1000

1000ml = 1 litre

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

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

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

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

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

Converting Mass

×1000

kg g

÷1000

1000g = 1kg

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

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

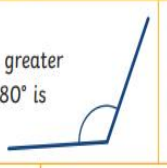
$\frac{1}{2}$kg = 0.5kg = 500g

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

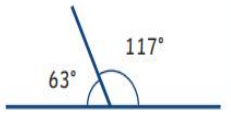
Identifying Angles

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

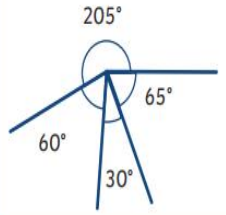
Obtuse Angles
Any angle that measures greater than 90° and less than 180° is called an **obtuse** angle.



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



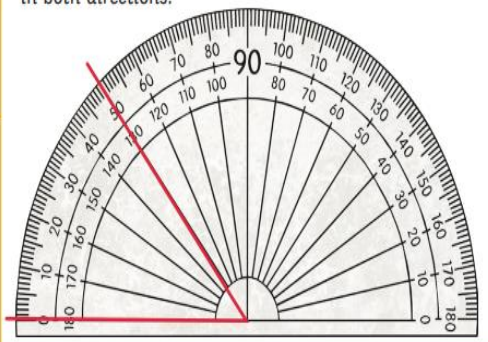
Angles on a straight line always total 180°.



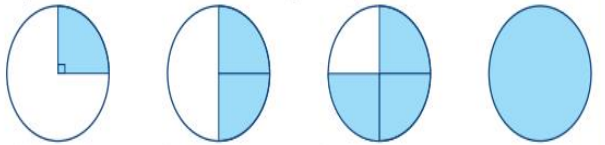
Angles around a point always total 360°.

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			
	÷ 10 → 3	•	8	
		← × 10		
3	8			

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	÷ 100 → 0	•	3	8
		← × 100		
3	8			

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	÷ 1000 → 0	•	0	3
		← × 1000		8
3	8			

Rounding

Rounding to the nearest 10

20	21	22	23	24	25	26	27	28	29	30

round down ← 24 | 25 → round up

Rounding to the nearest 1000

2000 ← round down 2499 | 2500 round up → 3000

Rounding to the nearest 100 000

200 000 ← round down 249 999 | 250 000 round up → 300 000

Related Calculations

8 × 9 = 72 80 × 9 = 720	9 × 8 = 72 90 × 8 = 720
72 ÷ 9 = 8 720 ÷ 9 = 80	72 ÷ 8 = 9 720 ÷ 8 = 90