Year 7
Knowledge Organiser
M2 2019 (Core)

"Knowledge is a treasure, but practice is the key to it."
— Lao Tzu

Sapere Aude

What is a Knowledge Organiser?
A Knowledge Organiser (KO) is a set of key facts or information that you need to know and be able to recall to help you master a unit or topic. Each subject has created a list of key facts which covers the basic information that you are expected to learn.

Do I need to bring my Knowledge Organiser to school every day?
Yes, your KO should be brought in every day like your community card and your planner. Your teachers may well want you to use your KOs in lessons. They are yours forever and you may want to annotate or highlight on them when your teacher talks about things in them. They will certainly be used in lessons when you have a cover teacher and you can use them whenever you find yourself with some spare time.

What do I do with my Knowledge Organiser at the end of term?
You should store it, along with previous KOs, in your folder. You are building a revision guide; the information in your KOs are things you will need to continue to know and understand.

What happens if I don't complete my KO homework each night?
Your mentor will check your KO homework each day using the Homework Timetable and stamp the page for that day to acknowledge successful completion. If you have not completed your KO homework satisfactorily (as set out below) then you will have a compulsory 30 min prep session that same day. If you fail to attend the prep session you will spend the next day in ALC.

What happens if I lose my Knowledge Organiser?
If you lose your KO you will be required to purchase a new one via finance.

Beginning of each half term:

New Knowledge Organisers (KO) are given to you by your mentors. These are to be stored in your KO folder and brought to school every day.

Every week:

You are expected to show evidence of your learning in each subject. Teachers will start lessons with a "Do Now" activity based around the KOs. Mentors will give house points each morning for outstanding KO homework.

Last week of half term:

You are tested in each subject to show how much knowledge you have learnt.

John 10:10

I came to give life – life in all its fullness
High Expectations – No Excuses

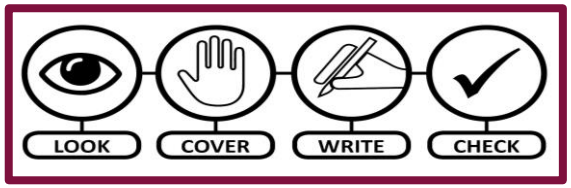
Sapere Aude

How to Self-Quiz

Your Knowledge Organiser is a vital document. It contains all the key things from your lessons that you will need to work on committing to your long-term memory.

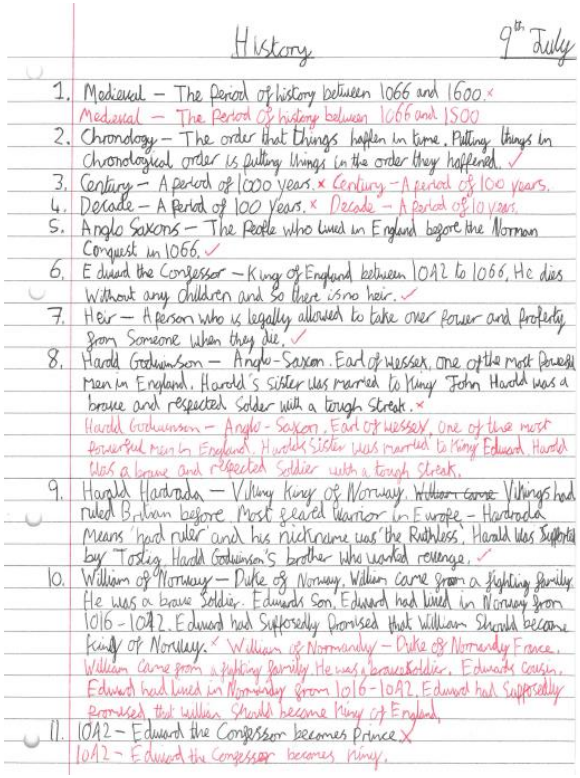
The best method when you are working on memorising things from your Knowledge Organiser is to self-quiz using the look, cover, write, check technique. Use your self-quizzing book for this.

Look	Read the piece of information carefully, two or three times.
Cover	Now cover up what you have just read.
Write	Now try and write down the piece of information you have just read.
Check	Did you write the information down correctly? If not, correct it with a red pen and then repeat!



Each night you should complete one full page (minimum) of self-quizzing in your quiz book. You should write the title (subject) and date at the top of each page. There should be no gaps on the page except for one line underneath the title. You should tick any correct answers and correct any incorrect answers in red pen.

Use the RAG column to self-assess how confident you are on each line once you have completed your self-quizzing.


History 9th July

1. Medieval – The period of history between 1066 and 1600. ×
   Medieval – The period of history between 1066 and 1500
2. Chronology – The order that things happen in time. Putting things in chronological order is putting things in the order they happened. ✓
3. Century – A period of 1000 years. × Century – A period of 100 years.
4. Decade – A period of 100 years. × Decade – A period of 10 years.
5. Anglo Saxons – The people who lived in England before the Norman Conquest in 1066. ✓
6. Edward the Confessor – King of England between 1042 to 1066. He dies without any children and so there is no heir. ✓
7. Heir – A person who is legally allowed to take over power and property from someone when they die. ✓
8. Harold Godwinson – Anglo-Saxon. Earl of Wessex, one of the most powerful men in England. Harold's sister was married to King John. Harold was a brave and respected solder with a tough streak. ×
   Harold Godwinson – Anglo-Saxon. Earl of Wessex. One of the most powerful men in England. Harold's sister was married to King Edward. Harold was a brave and respected soldier with a tough streak.
9. Harald Hardrada – Viking King of Norway. ~~William~~ Vikings had ruled Britain before. Most feared warrior in Europe. – Hardrada means 'hard ruler' and his nickname was 'the Ruthless'. Harold was supported by Tostig, Harold Godwinson's brother who wanted revenge. ✓
10. William of Normandy – Duke of Normandy. William came from a fighting family. He was a brave soldier. Edward's son. Edward had lived in Normandy from 1016 – 1042. Edward had supposedly promised that William should become King of Normandy. ✓ William of Normandy – Duke of Normandy France. William came from a fighting family. He was a brave soldier. Edward's cousin. Edward had lived in Normandy from 1016 – 1042. Edward had supposedly promised that William should become King of England.
11. 1042 – Edward the Confessor becomes Prince ×
    1042 – Edward the Confessor becomes King.

The Bishop of Winchester Academy Weekly Homework Grid 2019 – 2020

Year 7, Michaelmas 2 – Commencing Monday 4th November

Week	Activity	Monday	Tuesday	Wednesday	Thursday	Friday
1 4th Nov	Self Quizzing	Creative Arts Lines 1 - 8	Maths (Sets G, 1 & 2) Lines 1-13 Maths (3, 4 & 5) Lines 1-10	Spanish (G&1) Lines 1-107 (from M1 KO) Spanish (2&3) Lines 1-98 (from M1 KO) Literacy Lines 1 - 8 R.S. Lines 1 - 6	English Lines 1 - 9 (Language) Lines 1 - 5 (Literature)	History Lines 1 - 7 Geography Lines 1 - 16
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				
2 11th Nov	Self Quizzing	Science Lines 1 - 15	Maths (Sets G, 1 & 2) Lines 14-23 Maths (3, 4 & 5) Lines 11-18	Music Lines 1 - 10 Music Tech Lines 1 - 7 Drama Lines 1 - 6	English Lines 10 - 14 (Language) Lines 6 - 9 (Literature)	PE Lines 1 - 11 Computing Lines 1 - 11
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				
3 18th Nov	Self Quizzing	Creative Arts Lines 9 -16	Maths (Sets G, 1 & 2) Lines 24-32 Maths (3, 4 & 5) Lines 19-24	Spanish (G&1) Lines 1-27 & 47-67 Spanish (2&3) Lines 1-49 Literacy Lines 9 - 16 R.S. Lines 7 - 12	English Lines 15 - 18 (Language) Lines 10 - 16 (Literature)	History Lines 8 - 14 Geography Lines 17 - 32
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				
4 25th Nov	Self Quizzing	Science Lines 16 - 30	Maths (Sets G, 1 & 2) Lines 33-44 Maths (3, 4 & 5) Lines 25-32	Music Lines 11 - 23 Music Tech Lines 8 - 15 Drama Lines 7 - 13	English Lines 19 - 22 (Language) Lines 17 - 22 (Literature)	PE Lines 12 - 24 Computing Lines 12 - 22
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				

Week	Activity	Monday	Tuesday	Wednesday	Thursday	Friday
5 2nd Dec	Self Quizzing	Creative Arts Lines 17 - 24	Maths (Sets G, 1 & 2) Lines 45-59 Maths (3, 4 & 5) Lines 33-45	Spanish (G&1) Lines 68-106 Spanish (2&3) Lines 50-56 & 57-77 Literacy Lines 17 - 24 R.S. Lines 13 - 18	English Lines 23 - 26 (Language) Lines 23 -27 (Literature)	History Lines 15 - 21 Geography Lines 33 - 49
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				

***Music and Music Tech are on a rotation so you only need to do the homework for ONE of them (whichever one you are doing that half term) if you are unsure please speak to your music teacher**

***The Literacy KO is only for students who do not take Spanish. If you have Spanish lessons you are expected to complete Spanish homework, if you do not have Spanish lessons you are expected to do Literacy homework**

ENGLISH LANGUAGE – YEAR 7 – M2 Shocking Short Stories			RAG
1.	**Tension**	Tension is a feeling of worry and anxiety which makes it difficult for you to relax.	
2.	**Rising Action**	Rising action occurs after the introduction and before the climax. Rising action presents and develops the major conflict in the text.	
3.	**Climax**	The most important or exciting point in a story or situation, especially when this happens near the end.	
4.	**Falling Action**	The falling action in a work of literature is the sequence of events that follow the climax and end in the resolution.	
5.	**Resolution**	The resolution is the part of the story's plot where the main problem is resolved or worked out. The resolution occurs after the falling action and is typically where the story ends.	
6.	**Empathy**	The ability to understand and share the feelings of another.	
7.	**Sympathy**	Feelings of pity and sorrow for someone else's misfortune.	
8.	**Gothic**	Writing that employs dark and picturesque scenery, startling and melodramatic narrative devices, and an overall atmosphere of exoticism, mystery, fear and dread.	
9.	**Horror**	An intense feeling of fear, shock or disgust.	
10.	**Point of View (PoV)**	The angle from which a story is told or narrated. Point of view can be first person, objective, limited omniscient or omniscient.	
11.	**First Person Narrative**	The narrator is either a character in the story or an observer.	
12.	**Third Person Objective**	The narrator knows (or seems to know) no more than the reader.	
13.	**Third Person Limited Omniscient**	The third person limited narration only focuses on one central character.	
14.	**Third Person Omniscient**	The narrator is not limited to one character and knows the thoughts and feelings of all of the characters in the story.	
15.	**Connotation**	Something suggested or implied by a word or thing, rather than being explicitly named or described: Positive connotation e.g. childlike [innocent, happy] Negative connotation e.g. chicken [cowardly]).	
16.	**Denotation**	The precise/actual meaning of a word outside of the feelings it evokes; the dictionary meaning of a word or phrase.	
17.	**Foreshadowing**	To give a suggestion of something that will happen in the story.	
18.	**Dramatic Irony**	The reader becomes aware of something important of which the characters in the story are not aware.	
19.	**Parable**	A short story that teaches a moral or spiritual lesson, especially one of the stories told by Jesus Christ and recorded in the Bible. E.g. The Good Samaritan	
20.	**Fable**	A narration intended to enforce a useful truth. Fables frequently involve animals that speak and act like human beings. E.g. The Tortoise and the Hare	

ENGLISH LANGUAGE – YEAR 7 – M2 Shocking Short Stories			RAG
21.	**Fairytale**	A story for children involving magical events and imaginary creatures. e.g. Cinderella	
22.	**Anecdote**	An anecdote is a short account of something interesting and amusing, which usually tells a story about a real person and/or incident.	
23.	**Onomatopoeia**	Words that imitate, sound like or evoke their own meaning e.g. Bang, moist, gurgle.	
24.	**Personification**	Attributing human characteristics to something that is not human (a thing, an animal or an abstraction). e.g. The tree waved in the breeze.	
25.	**Metaphor**	A comparison between two things **without** using "like" or "as". e.g. He had the heart of a lion.	
26.	**Simile**	A comparison between two things using "like" or "as". e.g. As delicate as a flower.	

	ENGLISH LITERATURE – YEAR 7 – M2 Our Day Out		RAG
	Context		
1.	**Context**	Context is the real life background (including year/decade/century at the time of writing), environment or setting. It could include the political situation at the time, social expectations, life of the author etc., all of which may influence the text in some way.	
2.	**Setting**	*Our Day Out* is set in Liverpool in the 1970s. There was an economic recession in England at this time, causing many people to lose their jobs.	
3.	**Environment**	Liverpool is an industrial city, and the economy in the 70s was very much dependent on factories and the docks. However, the recession caused numerous job losses from the closure of docks and factories in the 1970s.	
4.	**Political Context**	Margaret Thatcher became England's first female prime minister in 1977. She was held responsible for numerous job losses, which caused widespread poverty. Many people in Liverpool (and around the country) disliked her.	
5.	**Social Expectations**	The children in *Our Day Out* come from working class families. Their family members would have lost jobs at the docks or factories in the 1970s. Children of working class families would also have been expected to work in factories or the docks after leaving school, but as these were being closed down at this time, their prospects of finding employment were decreasing.	
	Themes		
6.	**Social Deprivation**	**Social deprivation** is a term used to describe segments of society who may have limited access to the social world, due to factors such as poverty or poor education.	
7.	**Lack of Opportunity**	Due to the closure of many of Liverpool's businesses, factories and the docks, there were not many job opportunities for school leavers in the 1970s.	
8.	**Lack of Education**	Mrs. Kay in *Our Day Out* knows there aren't good job opportunities for the children in her Progress Class (a class for illiterate pupils), so she doesn't see the need to educate them properly. Despite this, she cares about them and wants them to enjoy their school trip to Conwy Castle.	
9.	**Poverty and Neglect**	Children were often not looked after properly, as portrayed by the character ***Andrews***, who is caught smoking and says he started at 8 years old.	
	Key Characters		
10.	**Mrs Kay**	Teacher of the Progress Class. Kind, caring, compassionate. Very informal with the students. Doesn't think there's much hope for their future.	
11.	**Briggs**	A strict teacher. Thinks Mrs Kay is far too liberal. Was sent on the school trip to supervise and keep discipline. Has some disagreements with Mrs Kay about their views on education.	

ENGLISH LITERATURE – YEAR 7 – M2 Our Day Out			RAG
12.	**Carol**	13 years old, in the Progress Class. From a poor family - wears school uniform even at weekends because she doesn't have a change of clothes. Lacks a father figure in her life. Wishes she could live in a nice place when she grows up and goes missing while the others are playing football on the beach. She gets so upset about wanting to live in a nice place like Conwy that near the end of the play, she threatens to jump off a cliff. Has probably never been outside of Liverpool before. Poorly educated and not very bright.	
13.	**Ronny Suttcliffe**	The coach driver. Prejudiced to begin with as he usually takes children from the 'nicer' schools and so assumes they will make a mess if they're allowed sweets & drinks on the coach. Develops more empathy after Mrs Kay describes how deprived their backgrounds are (using hyperbole for effect).	
14.	**Reilly & Digga**	Both aged 15. Persuade Mrs Kay to allow them on the trip even though they are no longer in the Progress Class. They are loud and intimidating, and bully the younger children on the coach.	
15.	**Colin & Susan**	Teachers on the school trip, both in their early 20s. The pupils try to embarrass them by saying they're in love with each other. Two of the girls (Linda and Karen) have a crush on Colin and make him feel uncomfortable by flirting with him.	
16.	**Andrews**	Aged 13 – Briggs catches him smoking on the coach. Admits he's been smoking since he was 8. We get an insight into his deprived home life when he explains about his absent father and says his family all hate him.	
17.	**Hyperbole**	Exaggerated statements or claims not meant to be taken literally.	
18.	**Working Class**	People who are employed for manual labour and low paid jobs.	
19.	**Social Exclusion**	When a group or individual is restricted from parts of society (such as access to wealth, education or work) due to prejudice.	
20.	**Evidence of Poverty**	'Carol rushes along wearing a school uniform which doubles as a street outfit and her Sunday best.'	
21.	**Evidence of Poor Housing**	'Why can't I live in one of them nice white houses an' do the garden an' that?'	
22.	**Evidence of Poor Health**	BRIGGS: How long have you been smoking, Andrews? ANDREWS: Since I was eight sir.	
23.	**Colloquialism**	A word or phrase that is not formal or literary and is used in ordinary or familiar conversation	

ENGLISH LITERATURE – YEAR 7 – M2 Our Day Out			RAG
24.	**Inspiration**	Willy Russell was inspired to write the play based on his own experience of teaching in a school in Liverpool.	
25.	**Reckless**	This adjective describes Carol's attitude when Briggs finds her on the clifftop.	
26.	**Dialogue**	A conversation between two or more people as a feature of a book, play or film.	
27.	**Stage Directions**	An instruction in the text of a play indicating the movement, position or tone of an actor, or the sound effects and lighting.	

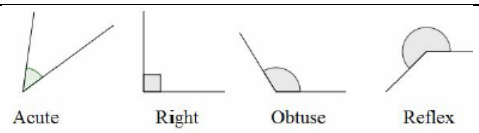
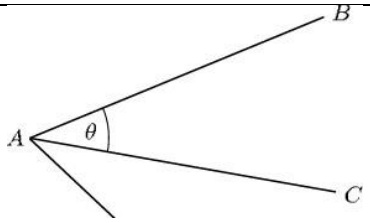
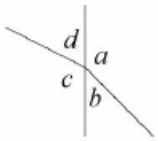
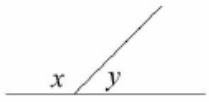
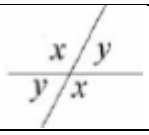
MATHS – YEAR 7 – M2 (Sets G, 1 and 2)				RAG
1.	**Fraction**	A mathematical expression representing the **division** of one integer by another. Fractions are written as **two numbers separated by a horizontal line**.	$\frac{2}{7}$ is a 'proper' fraction. $\frac{9}{4}$ is an 'improper' or 'top-heavy' fraction.	
2.	**Numerator**	The **top** number of a fraction.	In the fraction $\frac{3}{5}$, 3 is the numerator.	
3.	**Denominator**	The **bottom** number of a fraction.	In the fraction $\frac{3}{5}$, 5 is the denominator.	
4.	**Unit Fraction**	A fraction where the **numerator is one** and the denominator is a positive integer.	$\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$ $etc.$ are examples of unit fractions.	
5.	**Reciprocal**	The reciprocal of a number is **1 divided by the number**. The reciprocal of x is $\frac{1}{x}$. **When we multiply a number by its reciprocal we get 1**. This is called the 'multiplicative inverse'.	The reciprocal of 5 is $\frac{1}{5}$ The reciprocal of $\frac{2}{3}$ is $\frac{3}{2}$, because $\frac{2}{3} \times \frac{3}{2} = 1$	
6.	**Mixed Number**	A number formed of both an **integer part** and a **fraction part**.	$3\frac{2}{5}$ is an example of a mixed number.	
7.	**Simplifying Fractions**	**Divide the numerator and denominator by the highest common factor**.	$\frac{20}{45} = \frac{4}{9}$	
8.	**Equivalent Fractions**	Fractions which represent the **same value**.	$\frac{2}{5} = \frac{4}{10} = \frac{20}{50} = \frac{60}{150}$ $etc.$	
9.	**Comparing Fractions**	To compare fractions, they each need to be rewritten so that they have a **common denominator**. **Ascending** means **smallest to biggest**. **Descending** means **biggest to smallest**.	Put in to ascending order : $\frac{3}{4}, \frac{2}{3}, \frac{5}{6}, \frac{1}{2}$. Equivalent: $\frac{9}{12}, \frac{8}{12}, \frac{10}{12}, \frac{6}{12}$ Correct order: $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}$	

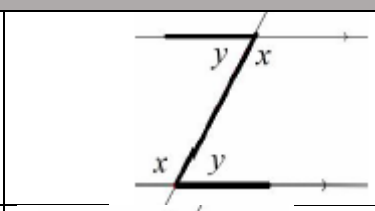
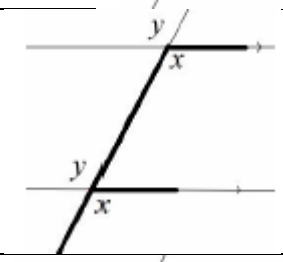
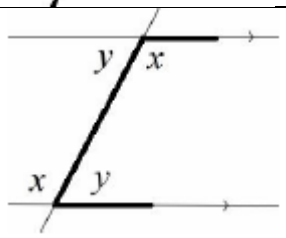
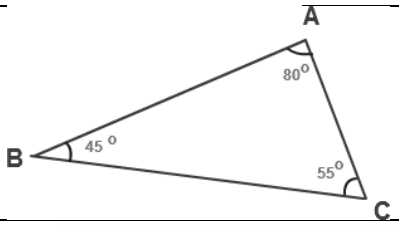
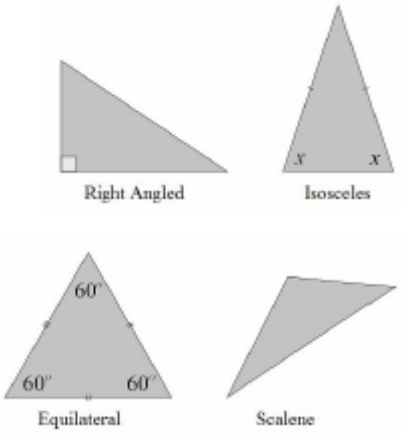
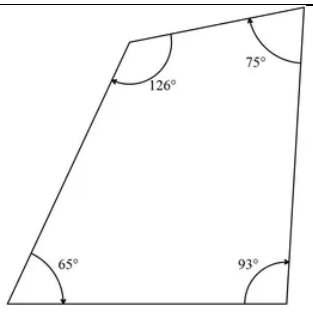
MATHS – YEAR 7 – M2 (Sets G, 1 and 2)				RAG
10.	**Fraction of an Amount**	**Divide** by the **denominator**, **times** by the **numerator.**	Find $\frac{2}{5}$ of £60 $60 \div 5 = 12$ $12 \times 2 = 24$	
11.	**Adding or Subtracting Fractions**	Find the **LCM of the denominators** to find a common denominator. Use equivalent fractions to change each fraction to the **common denominator**. Then just **add or subtract the numerators** and keep the **denominator the same.**	$\frac{2}{3} + \frac{4}{5}$ Multiples of 3: 3, 6, 9, 12, **15**.. Multiples of 5: 5, 10, **15**.. LCM of 3 and 5 = 15 $\frac{2}{3} = \frac{10}{15}$ $\frac{4}{5} = \frac{12}{15}$ $\frac{10}{15} + \frac{12}{15} = \frac{22}{15} = 1\frac{7}{15}$	
12.	**Multiplying Fractions**	**Multiply** the **numerators** together and **multiply** the **denominators** together.	$\frac{3}{8} \times \frac{2}{9} = \frac{6}{72} = \frac{1}{12}$	
13.	**Dividing Fractions**	**'Keep it, Flip it, Change it - KFC'** Keep the first fraction the same Flip the second fraction upside down Change the divide to a multiply Multiply by the reciprocal of the second fraction.	$\frac{3}{4} \div \frac{5}{6} = \frac{3}{4} \times \frac{6}{5} = \frac{18}{20} = \frac{9}{10}$	
14.	**Percentage Change**	$\frac{\boldsymbol{Difference}}{\boldsymbol{Original}} \times \mathbf{100}$ Include the % sign at the end	A games console is bought for £200 and sold for £250. % change = $\frac{50}{200} \times 100 = 25\%$	
15.	**Fractions to Decimals**	**Divide the numerator by the denominator** using the bus stop method.	$\frac{3}{8} = 3 \div 8 = 0.375$	

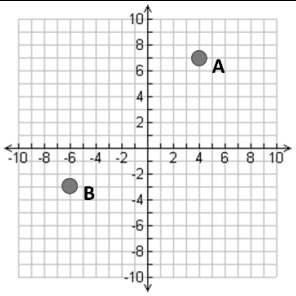
MATHS - YEAR 7 - M2 (Sets G, 1 and 2)				RAG
16.	**Decimals to Fractions**	**Write as a fraction** over 10, 100 or 1000 and simplify.	<table><tr><th>U</th><th>.</th><th>$\frac{1}{10}$</th><th>$\frac{1}{100}$</th></tr><tr><td>0</td><td>.</td><td>3</td><td>6</td></tr></table> $0.36 = \frac{36}{100} = \frac{9}{25}$	
17.	**Percentages to Decimals**	**Divide by 100**	$8\% = 8 \div 100 = 0.08$	
18.	**Decimals to Percentages**	**Multiply by 100** **Include % sign at the end**	$0.4 = 0.4 \times 100\% = 40\%$	
19.	**Fractions to Percentages**	Percentage is just a fraction out of 100. **Make the denominator 100 using equivalent fractions.** When the denominator doesn't go in to 100 exactly, use a calculator and **multiply the fraction by 100.**	$\frac{3}{25} = \frac{12}{100} = 12\%$ $\frac{9}{17} \times 100 = 52.9\%$	
20.	**Percentages to Fractions**	Percentage is just a fraction out of 100. **Write the percentage over 100** and simplify.	$14\% = \frac{14}{100} = \frac{7}{50}$	
21.	**Increase or Decrease by a Percentage**	Non-calculator: **Find the percentage** and **add** or **subtract** it from the **original** amount. Calculator: Find the **percentage multiplier** and multiply.	<u>Increase 500 by 20% (Non Calc):</u> 10% of 500 = 50 so 20% of 500 = 100 500 + 100 = 600 <u>Decrease 800 by 17% (Calc):</u> 100%-17%=83% 83% ÷ 100 = 0.83 0.83 x 800 = 664	
22.	**Percentage Multiplier**	The **number** you **multiply** a quantity by to **increase or decrease** it by a **percentage**.	The multiplier for increasing by 12% is 1.12 The multiplier for decreasing by 12% is 0.88 The multiplier for increasing by 100% is 2.	

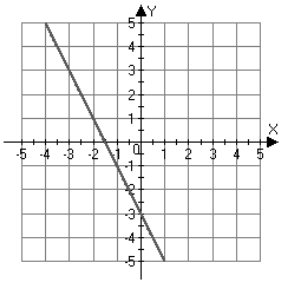
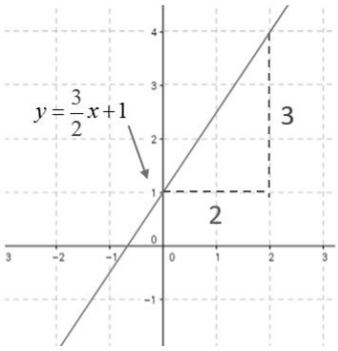
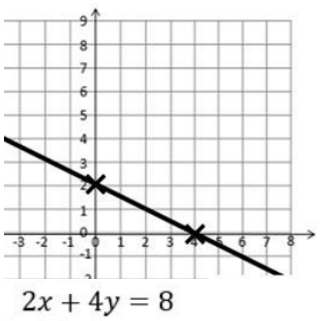
MATHS - YEAR 7 - M2 (Sets G, 1 and 2)				RAG
23.	**FDP Equivalence**			

Percent	Decimal	Fraction
1%	0.01	1/100
5%	0.05	1/20
10%	0.1	1/10
12 ½%	0.125	1/8
20%	0.2	1/5
25%	0.25	¼
33 1/3%	0.333...	1/3
50%	0.5	½
75%	0.75	¾
80%	0.8	4/5
90%	0.9	9/10
99%	0.99	99/100
100%	1	
125%	1.25	5/4
150%	1.5	3/2
200%	2	

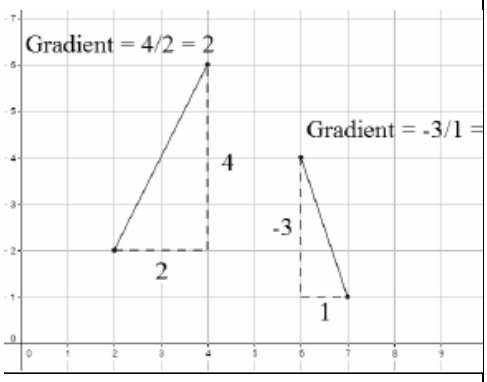
24.	**Types of Angles**	Acute angles are less than 90°. Right angles are exactly 90°. Obtuse angles are greater than 90° but less than 180°. Reflex angles are greater than 180° but less than 360°.		
25.	**Angle Notation**	Can use one lower-case letters, e.g. θ or x Can use three upper-case letters, e.g. BAC		
26.	**Angles at a Point**	Angles around a point add up to 360°.	 $a+b+c+d=360^o$	
27.	**Angles on a Straight Line**	Angles around a point on a straight line add up to 180°.	 $x+y=180^o$	
28.	**Opposite Angles**	Vertically opposite angles are equal.		

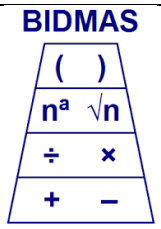
MATHS - YEAR 7 - M2 (Sets G, 1 and 2)				RAG
29.	**Alternate Angles**	Alternate angles are equal. They look like Z angles, but never say this in the exam.		
30.	**Corresponding Angles**	Corresponding angles are equal. They look like F angles, but never say this in the exam.		
31.	**Co-Interior Angles**	Co-Interior angles add up to 180°. They look like C angles, but never say this in the exam.		
32.	**Angles in a Triangle**	Angles in a triangle add up to 180°.		
33.	**Types of Triangles**	Right Angle Triangles have a 90° angle in. Isosceles Triangles have 2 equal sides and 2 equal base angles. Base angles in an isosceles triangle are equal. Equilateral Triangles have 3 equal sides and 3 equal angles (60°). Scalene Triangles have different sides and different angles.		
34.	**Angles in a Quadrilateral**	Angles in a quadrilateral add up to 360°.		

MATHS - YEAR 7 - M2 (Sets G, 1 and 2)				RAG
35.	**Sum of Interior Angles**	$(n-2)\times 180$ where n is the number of sides.	Sum of Interior Angles in a Decagon = $(10-2)\times 180 = 1440°$	
36.	**Size of Interior Angle in a Regular Polygon**	$\frac{(n-2)\times 180}{n}$ You can also use the formula: $180 - Size\ of\ Exterior\ Angle$	Size of Interior Angle in a Regular Pentagon = $\frac{(5-2)\times 180}{5} = 108°$	
37.	**Size of Exterior Angle in a Regular Polygon**	$\frac{360}{n}$ You can also use the formula: $180 - Size\ of\ Interior\ Angle$	Size of Exterior Angle in a Regular Octagon = $\frac{360}{8} = 45°$	
38.	**Coordinates**	Written in pairs. The first term is the x-coordinate (movement across). The second term is the y-coordinate (movement up or down).	 A: (4,7) B: (-6,-3)	
39.	**Midpoint of a Line**	Method 1: add the x coordinates and divide by 2, add the y coordinates and divide by 2 Method 2: Sketch the line and find the values half way between the two x and two y values.	Find the midpoint between (2,1) and (6,9) $\frac{2+6}{2} = 4$ and $\frac{1+9}{2} = 5$ So, the midpoint is (4,5)	

MATHS - YEAR 7 - M2 (Sets G, 1 and 2)				RAG
40.	**Linear Graph**	Straight line graph. The general equation of a linear graph is $y = mx + c$ where m is the gradient and c is the y-intercept. The equation of a linear graph can contain an x-term, a y-term and a number.	Example:  Other examples: $x = y$ $\quad y = 4$ $x = -2$ $\quad y = 2x - 7$ $y + x = 10$ $\quad 2y - 4x = 12$	
41.	**Plotting Linear Graphs**	Method 1: Table of Values Construct a table of values to calculate coordinates. Method 2: Gradient-Intercept Method (use when the equation is in the form $y = mx + c$) 1. Plots the y-intercept 2. Using the gradient, plot a second point. 3. Draw a line through the two points plotted. Method 3: Cover-Up Method (use when the equation is in the form $ax + by = c$) 1. Cover the x term and solve the resulting equation. Plot this on the $x - axis$. 2. Cover the y term and solve the resulting equation. Plot this on the $y - axis$. 3. Draw a line through the two points plotted.	   $2x + 4y = 8$	

x	-3	-2	-1	0	1	2	3
y= x +3	0	1	2	3	4	5	6

MATHS - YEAR 7 - M2 (Sets G, 1 and 2)				RAG
42.	**Gradient**	The gradient of a line is how steep it is. Gradient = $\frac{Change\ in\ y}{Change\ in\ x} = \frac{Rise}{Run}$ The gradient can be positive (sloping upwards) or negative (sloping downwards).		
43.	**Finding the Equation of a Line given a point and a gradient**	Substitute in the gradient (m) and point (x,y) in to the equation $y = mx + c$ and solve for c.	Find the equation of the line with gradient 4 passing through (2,7). $m = 4, (x, y) = (7, 2)$ $y = mx + c$ $7 = 4 \times 2 + c$ $c = -1$ $y = 4x - 1$	
44.	**Finding the Equation of a Line given two points**	Use the two points to calculate the gradient. Then repeat the method above using the gradient and either of the points.	Find the equation of the line passing through (6,11) and (2,3) $m = \frac{11-3}{6-2} = 2$ $y = mx + c$ $11 = 2 \times 6 + c$ $c = -1$ $y = 2x - 1$	
45.	**Approximation**	When using approximations to estimate the solution to a calculation, **round each number in the calculation to 1 significant figure.** $\approx$ means 'approximately equal to'	$\frac{348+692}{0.526} \approx \frac{300+700}{0.5} = 2000$ 'Note that dividing by 0.5 is the same as multiplying by 2'	

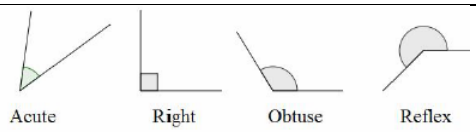
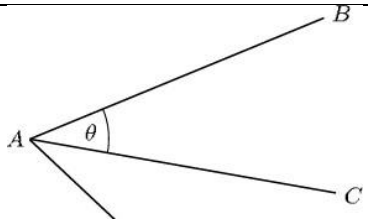
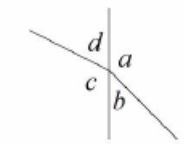
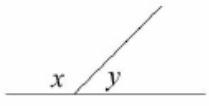
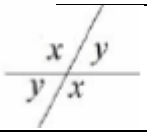
MATHS - YEAR 7 - M2 (Sets G, 1 and 2)				RAG
46.	**Sum**	The result of one or more additions.	The sum of 2, 5 and 1 = 8	
47.	**Difference**	Subtracting one number from the other finds the difference between the numbers.	The difference between 8 and 2 = 6	
48.	**Product**	Result of multiplication.	The product of 2, 4 and 3 = 24	
49.	**Dividend**	The original amount in a division problem.	$\frac{Dividend}{Divisor} = Quotient$ e.g. 6 ÷ 3 = 2 (6 is the dividend)	
50.	**Divisor**	What a number is being divided by.		
51.	**Quotient**	The answer resulting from dividing one number by another.		
52.	**Order of Operations**	The correct order that operations must be performed in a calculation, with BIDMAS as a reminder.	$3 + 6 \times 4 = 27$ (not 36!)	
53.	**BIDMAS**	Brackets, Indices, Division and Multiplication, Addition and Subtraction. B→I→DM→AS		
54.	**Rounding**	To make a number simpler but keep its value close to what it was. If the **digit to the right** of the rounding digit is **less than 5, round down**. If the **digit to the right** of the rounding digit is **5 or more, round up**.	74 rounded to the nearest ten is 70, because 74 is closer to 70 than 80. 152,879 rounded to the nearest thousand is 153,000.	

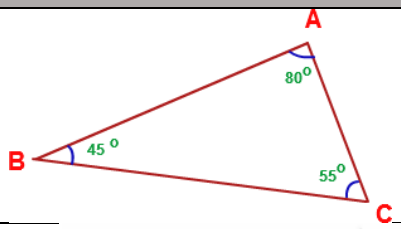
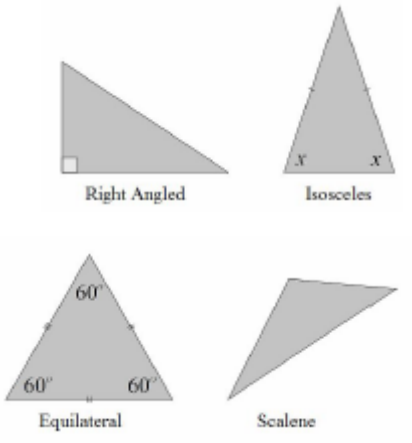
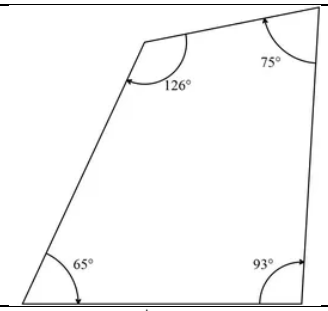
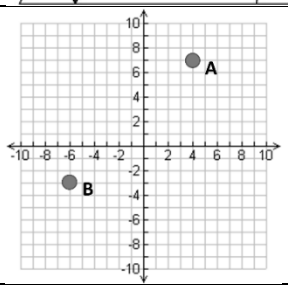
MATHS – YEAR 7 – M2 (Sets G, 1 and 2)				RAG
55.	**Decimal Place**	The **position** of a digit to the **right of a decimal point**.	In the number 0.372, the 7 is in the second decimal place. 0.372 rounded to two decimal places is 0.37, because the 2 tells us to round down. Careful with money - don't write £27.4, instead write £27.40	
56.	**Significant Figure**	The significant figures of a number are the digits which **carry meaning** (ie. are significant) to the size of the number. The **first significant figure** of a number **cannot be zero**. In a number with a decimal, trailing zeros are not significant.	In the number 0.00821, the first significant figure is the 8. In the number 2.740, the 0 is not a significant figure. 0.00821 rounded to 2 significant figures is 0.0082. 19357 rounded to 3 significant figures is 19400. We need to include the two zeros at the end to keep the digits in the same place value columns.	
57.	**Error Interval**	A **range of values** that a number could have taken before being rounded or truncated. An error interval is written using inequalities, with a **lower bound** and an **upper bound**. Note that the lower bound inequality can be 'equal to', but the upper bound cannot be 'equal to'.	0.6 has been rounded to 1 decimal place. The error interval is: $0.55 \leq x < 0.65$ The lower bound is 0.55 The upper bound is 0.65	

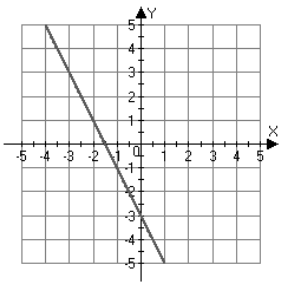
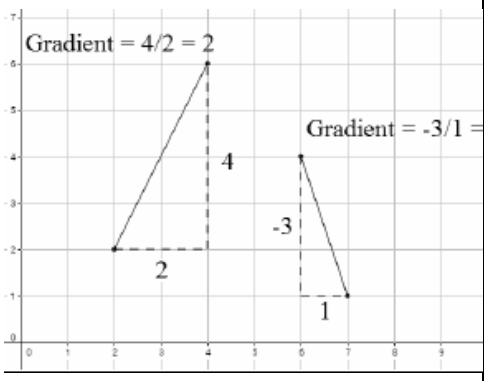
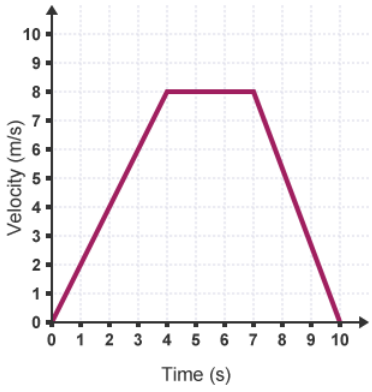
MATHS – YEAR 7 – M2 (Sets G, 1 and 2)				RAG
58.	**Estimate**	To find something **close to the correct answer**.	An estimate for the height of a man is 1.8 metres.	
59.	**Approximation**	When using approximations to estimate the solution to a calculation, **round each number in the calculation to 1 significant figure.** ≈ means 'approximately equal to'	$\frac{348+692}{0.526} \approx \frac{300+700}{0.5} = 2000$ 'Note that dividing by 0.5 is the same as multiplying by 2'	

MATHS – YEAR 7 – M2 (Sets 3 and 4)				RAG
1.	**Fraction**	A mathematical expression representing the **division** of one integer by another. Fractions are written as **two numbers separated by a horizontal line**.	$\frac{2}{7}$ is a 'proper' fraction. $\frac{9}{4}$ is an 'improper' or 'top-heavy' fraction.	
2.	**Numerator**	The **top** number of a fraction.	In the fraction $\frac{3}{5}$, 3 is the numerator.	
3.	**Denominator**	The **bottom** number of a fraction.	In the fraction $\frac{3}{5}$, 5 is the denominator.	
4.	**Unit Fraction**	A fraction where the **numerator is one** and the denominator is a positive integer.	$\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$ $etc.$ are examples of unit fractions.	
5.	**Mixed Number**	A number formed of both an **integer part** and a **fraction part**.	$3\frac{2}{5}$ is an example of a mixed number.	
6.	**Simplifying Fractions**	**Divide the numerator and denominator by the highest common factor**.	$\frac{20}{45} = \frac{4}{9}$	
7.	**Equivalent Fractions**	Fractions which represent the **same value**.	$\frac{2}{5} = \frac{4}{10} = \frac{20}{50} = \frac{60}{150}$ $etc.$	
8.	**Comparing Fractions**	To compare fractions, they each need to be rewritten so that they have a **common denominator**. **Ascending** means **smallest to biggest**. **Descending** means **biggest to smallest**.	Put in to ascending order : $\frac{3}{4}, \frac{2}{3}, \frac{5}{6}, \frac{1}{2}$. Equivalent: $\frac{9}{12}, \frac{8}{12}, \frac{10}{12}, \frac{6}{12}$ Correct order: $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}$	
9.	**Fraction of an Amount**	**Divide** by the **denominator**, **times** by the **numerator.**	Find $\frac{2}{5}$ of £60 $60 \div 5 = 12$ $12 \times 2 = 24$	

MATHS - YEAR 7 - M2 (Sets 3 and 4)				RAG
10.	**Adding or Subtracting Fractions**	Find the **LCM of the denominators** to find a common denominator. Use equivalent fractions to change each fraction to the **common denominator**. Then just **add or subtract the numerators** and keep the **denominator the same.**	$\frac{2}{3}+\frac{4}{5}$ Multiples of 3: 3, 6, 9, 12, **15**.. Multiples of 5: 5, 10, **15**.. LCM of 3 and 5 = 15 $\frac{2}{3}=\frac{10}{15}$ $\frac{4}{5}=\frac{12}{15}$ $\frac{10}{15}+\frac{12}{15}=\frac{22}{15}=1\frac{7}{15}$	
11.	**Percentage Change**	$\frac{\boldsymbol{Difference}}{\boldsymbol{Original}}\times \mathbf{100}$ **Include % symbol at the end**	A games console is bought for £200 and sold for £250. % change = $\frac{50}{200}\times 100 = 25\%$	
12.	**Fractions to Decimals**	**Divide the numerator by the denominator** using the bus stop method.	$\frac{3}{8} = 3 \div 8 = 0.375$	
13.	**Decimals to Fractions**	**Write as a fraction** over 10, 100 or 1000 and simplify.	<table><tr><th>U</th><th>.</th><th>$\frac{1}{10}$</th><th>$\frac{1}{100}$</th></tr><tr><td>0</td><td>.</td><td>3</td><td>6</td></tr></table>$0.36 = \frac{36}{100} = \frac{9}{25}$	
14.	**Percentages to Decimals**	**Divide by 100**	$8\% = 8 \div 100 = 0.08$	
15.	**Decimals to Percentages**	**Multiply by 100** **Include % sign at the end**	$0.4 = 0.4 \times 100\% = 40\%$	
16.	**Fractions to Percentages**	Percentage is just a fraction out of 100. **Make the denominator 100 using equivalent fractions.** When the denominator doesn't go in to 100 exactly, use a calculator and **multiply the fraction by 100.**	$\frac{3}{25}=\frac{12}{100}=12\%$ $\frac{9}{17}\times 100 = 52.9\%$	
17.	**Percentages to Fractions**	Percentage is just a fraction out of 100. **Write the percentage over 100** and simplify.	$14\% = \frac{14}{100}=\frac{7}{50}$	

MATHS - YEAR 7 - M2 (Sets 3 and 4)				RAG
18.	**FDP Equivalence**		<table><tr><th>Percent</th><th>Decimal</th><th>Fraction</th></tr><tr><td>1%</td><td>0.01</td><td>1/100</td></tr><tr><td>5%</td><td>0.05</td><td>1/20</td></tr><tr><td>10%</td><td>0.1</td><td>1/10</td></tr><tr><td>12 ½%</td><td>0.125</td><td>1/8</td></tr><tr><td>20%</td><td>0.2</td><td>1/5</td></tr><tr><td>25%</td><td>0.25</td><td>¼</td></tr><tr><td>33 1/3%</td><td>0.333...</td><td>1/3</td></tr><tr><td>50%</td><td>0.5</td><td>½</td></tr><tr><td>75%</td><td>0.75</td><td>¾</td></tr><tr><td>80%</td><td>0.8</td><td>4/5</td></tr><tr><td>90%</td><td>0.9</td><td>9/10</td></tr><tr><td>99%</td><td>0.99</td><td>99/100</td></tr><tr><td>100%</td><td>1</td><td></td></tr><tr><td>125%</td><td>1.25</td><td>5/4</td></tr><tr><td>150%</td><td>1.5</td><td>3/2</td></tr><tr><td>200%</td><td>2</td><td></td></tr></table>	
19.	**Types of Angles**	Acute angles are less than 90°. Right angles are exactly 90°. Obtuse angles are greater than 90° but less than 180°. Reflex angles are greater than 180° but less than 360°.		
20.	**Angle Notation**	Can use one lower-case letters, e.g. θ or x. Can use three upper-case letters, e.g. BAC.		
21.	**Angles at a Point**	Angles around a point add up to 360°.	 $a+b+c+d=360^o$	
22.	**Angles on a Straight Line**	Angles around a point on a straight line add up to 180°.	 $x+y=180^o$	
23.	**Opposite Angles**	Vertically opposite angles are equal.		

MATHS - YEAR 7 - M2 (Sets 3 and 4)				RAG
24.	**Angles in a Triangle**	Angles in a triangle add up to 180°.		
25.	**Types of Triangles**	Right Angle Triangles have a 90° angle in. Isosceles Triangles have 2 equal sides and 2 equal base angles. Base angles in an isosceles triangle are equal. Equilateral Triangles have 3 equal sides and 3 equal angles (60°). Scalene Triangles have different sides and different angles.		
26.	**Angles in a Quadrilateral**	Angles in a quadrilateral add up to 360°.		
27.	**Coordinates**	Written in pairs. The first term is the x-coordinate (movement across). The second term is the y-coordinate (movement up or down).	 A: (4,7) B: (-6,-3)	
28.	**Midpoint of a Line**	Method 1: add the x coordinates and divide by 2, add the y coordinates and divide by 2. Method 2: Sketch the line and find the values half way between the two x and two y values.	Find the midpoint between (2,1) and (6,9) $\frac{2+6}{2} = 4$ and $\frac{1+9}{2} = 5$ So, the midpoint is (4,5)	

MATHS - YEAR 7 - M2 (Sets 3 and 4)				RAG
29.	**Linear Graph**	Straight line graph.	Example: 	
30.	**Plotting Linear Graphs**	Method 1: Table of Values Construct a table of values to calculate coordinates. .		
31.	**Gradient**	The gradient of a line is how steep it is. Gradient = $\frac{Change\ in\ y}{Change\ in\ x} = \frac{Rise}{Run}$ The gradient can be positive (sloping upwards) or negative (sloping downwards).		
32.	**Real Life Graph**	A graph that shows an event in a real world context. Journeys or time taken to fill a container can be shown as graphs.		

x	-3	-2	-1	0	1	2	3
y= x +3	0	1	2	3	4	5	6

MATHS - YEAR 7 - M2 (Sets 3 and 4)				RAG
33.	**Approximation**	When using approximations to estimate the solution to a calculation, **round each number in the calculation to 1 significant figure.** ≈ means 'approximately equal to'	$\frac{348+692}{0.526} \approx \frac{300+700}{0.5} = 2000$ 'Note that dividing by 0.5 is the same as multiplying by 2'	
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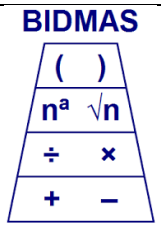
41.	**BIDMAS**	Brackets, Indices, Division and Multiplication, Addition and Subtraction. B→I→DM→AS		
42.	**Rounding**	To make a number simpler but keep its value close to what it was. If the **digit to the right** of the rounding digit is **less than 5, round down**. If the **digit to the right** of the rounding digit is **5 or more, round up**.	74 rounded to the nearest ten is 70, because 74 is closer to 70 than 80. 152,879 rounded to the nearest thousand is 153,000.	

MATHS – YEAR 7 – M2 (Sets 3 and 4)				RAG
43.	**Decimal Place**	The **position** of a digit to the **right of a decimal point**.	In the number 0.372, the 7 is in the second decimal place. 0.372 rounded to two decimal places is 0.37, because the 2 tells us to round down. Careful with money - don't write £27.4, instead write £27.40	
44.	**Significant Figure**	The significant figures of a number are the digits which **carry meaning** (i.e. are significant) to the size of the number. The **first significant figure** of a number **cannot be zero**. In a number with a decimal, trailing zeros are not significant.	In the number 0.00821, the first significant figure is the 8. In the number 2.740, the 0 is not a significant figure. 0.00821 rounded to 2 significant figures is 0.0082. 19357 rounded to 3 significant figures is 19400. We need to include the two zeros at the end to keep the digits in the same place value columns.	
45.	**Estimate**	To find something **close to the correct answer**.	An estimate for the height of a man is 1.8 metres.	

SCIENCE – YEAR 7 – M2 Chemistry in the Kitchen			RAG
1.	**Acid**	An acid is a solution with a pH value less than 7.	
2.	**Alkali**	An alkali is a soluble base.	
3.	**Base**	A substance that neutralises an acid – those that dissolve in water are called alkalis.	
4.	**Concentration**	A measure of the number of particles in a given volume.	
5.	**Corrosive**	A substance is corrosive if it can burn your skin or eyes.	
6.	**Dilute**	A solution is dilute if it has a small number of solute particles per unit volume (litre or cubic metre).	
7.	**Displacement**	Reaction where a more reactive metal takes the place of a less reactive metal in a compound.	
8.	**Element**	A substance that cannot be broken down into other substances.	
9.	**Neutralisation**	In a neutralisation reaction, an acid cancels out a base or a base cancels out an acid.	
10.	**Oxidation**	A chemical reaction in which a substance combines with oxygen.	
11.	**Product**	A substance that is made in a chemical reaction.	
12.	**Reactant**	A starting substance in a chemical reaction.	
13.	**Reactivity**	The tendency of a substance to undergo a chemical reaction.	
14.	**Reactivity Series**	A list of metals in order of how vigorously they react.	
15.	**Reversible**	A change in which it is possible to get back to the original substances. Examples include dissolving and changes of state.	
16.	**Chromatography**	A technique to separate mixtures of liquids (often coloured) that are soluble in the same solvent.	
17.	**Condense (Condensation)**	The change of state from gas to liquid. It can happen at any temperature below the boiling point.	
18.	**Density**	The mass of a material in a certain volume.	
19.	**Distillation**	A technique that uses evaporation and condensation to obtain a solvent from a solution.	
20.	**Evaporate (Evaporation)**	The change of state from liquid to gas that occurs when particles leave the surface of the liquid only. It can happen at any temperature. Evaporation can be used to separate a solid dissolved in a liquid.	
21.	**Freeze (Freezing)**	The change of state from liquid to solid at the melting point of a substance.	
22.	**Melt (Melting)**	The change of state from solid to liquid at the melting point of a substance.	
23.	**Mixture**	A mixture is made up of two or more pure substances that are mixed (not chemically joined) together. A mixture's properties are different from the properties of the individual substances that make it up.	
24.	**Pure Substance**	A single material with no other substances mixed with it.	
25.	**Solubility**	The maximum mass of solute that dissolves in a certain volume or mass of solvent.	

SCIENCE – YEAR 7 – M2 Chemistry in the Kitchen			RAG
26.	**Soluble (Insoluble)**	A soluble substance can dissolve in a given solvent. An insoluble substance cannot dissolve in a given solvent.	
27.	**Solute**	The solid or gas that is dissolved in a liquid.	
28.	**Solution**	A mixture of a solute dissolved in a solvent. All parts of the mixture are the same.	
29.	**Solvent**	A substance, normally a liquid, that dissolves another substance.	
30.	**Sublime (Sublimation)**	The change of state from solid directly to gas.	

R.S – YEAR 7 - M2 Life After Death			
1.	**Death**	The end of life of a person or organism.	
2.	**Mummification**	Mummification is a process in which the skin and flesh of a corpse can be preserved. The process can either occur naturally, or it can be intentional. Intentional mummification was common in ancient Egypt, especially for burying Egyptian pharaohs.	
3.	**The Book of the Dead**	The Book of the Dead is an ancient Egyptian funerary text written on papyrus, containing a number of magic spells intended to assist a dead person's journey through the Duat, or underworld, and into the afterlife. It was written by many priests over a period of about 1000 years. The Book of the Dead was placed in the coffin or burial chamber of the deceased.	
4.	**Parapsychology**	Lots of cultures teach belief in a spirit world (ghosts). Through spiritualists (mediums) people believe they can contact the dead.	
5.	**Dualism**	The belief that the body and mind are separate. The body is physical unlike the mind and so some people believe the mind can survive the death of the body.	
6.	**Near Death Experiences**	A personal experience associated with death or impending death. Many people claim to have had near death experiences when they have been faced with a bright light leading to the afterlife.	
7.	**Empirical Evidence**	Information received by means of the senses.	
8.	**Soul**	The spiritual part of a person that some people believe continues to exist in some form after their body has died.	
9.	**Funeral**	A ceremony or service held shortly after a person's death, usually including the person's burial or cremation.	
10.	**Funerary Customs**	The customs associated with funerals. These customs vary between cultures and religions.	
11.	**Heaven**	*'My Father's house has many rooms; if that were not so, would I have told you that I am going there to prepare a place for you?' (John 14:2)*	
12.	**Heaven**	*'He will wipe every tear from their eyes. There will be no more death or mourning or crying or pain, for the old order of things has passed away.'(Revelation 21:4)*	

R.S – YEAR 7 - M2 Life After Death			
13.	**Heaven**	Heaven is seen as a place of eternal life, with many Christians believing that entry into heaven is conditional on living a 'good' life.	
14.	**Hell**	*"Hell is a state to which the wicked are condemned, and in which they are deprived of the sight of God for all eternity, and are in dreadful torments." (Pope Pius X, 1908)*	
15.	**The story of 'The Rich man and Lazarus'**	*The Rich Man and Lazarus* *19 There was a rich man who was dressed in purple and fine linen and lived in luxury every day. 20 At his gate was laid a beggar named Lazarus, covered with sores 21 and longing to eat what fell from the rich man's table. Even the dogs came and licked his sores.* *22 The time came when the beggar died and the angels carried him to Abraham's side. The rich man also died and was buried. 23 In Hades, where he was in torment, he looked up and saw Abraham far away, with Lazarus by his side. 24 So he called to him, 'Father Abraham, have pity on me and send Lazarus to dip the tip of his finger in water and cool my tongue, because I am in agony in this fire.'* *25 But Abraham replied, 'Son, remember that in your lifetime you received your good things, while Lazarus received bad things, but now he is comforted here and you are in agony. 26 And besides all this, between us and you a great chasm has been set in place, so that those who want to go from here to you cannot, nor can anyone cross over from there to us.'* *27 He answered, 'Then I beg you, father, send Lazarus to my family, 28 for I have five brothers. Let him warn them, so that they will not also come to this place of torment.'* *29 Abraham replied, 'They have Moses and the Prophets; let them listen to them.'* *30 'No, father Abraham,' he said, 'but if someone from the dead goes to them, they will repent.'* *31 He said to him, 'If they do not listen to Moses and the Prophets, they will not be convinced even if someone rises from the dead.'* *(Luke 16:19-31)*	
16.	**Purgatory**	The Roman Catholic belief that the souls of those who die in a state of grace are made ready for heaven in purgatory. The living are able to pray for the souls of the dead in purgatory.	

R.S – YEAR 7 - M2 Life After Death			
17.	**The Day of the Dead**	**The Day of the Dead** (Spanish **Día de los Muertos)**, is a holiday in Mexico and is observed to a lesser extent in other areas of Latin America and in the United States. This holiday honours dead loved ones and makes peace with the eventuality of death by treating it familiarly, without fear and dread. The holiday is derived from the rituals of the pre-Hispanic peoples of Mexico. Led by the goddess Mictecacihuatl, known as "Lady of the Dead," the celebration lasted a month. After the Spanish arrived in Mexico and began converting the native peoples to Roman Catholicism the holiday was moved to coincide with All Saints' Day and All Souls' Day (November 1st and 2nd)	
18.	**Reincarnation**	The belief that after the death of the physical body the spiritual aspect of the person (the soul) survives and is re-born into another existence. Depending on the tradition this existence could this could be human, animal, spiritual or even vegetable. Belief in reincarnation is widespread, from Plato in ancient Greece (4th-5th century BCE) to the major Asian religions (Hinduism, Jainism, Buddhism and Sikhism), all of which originated in India. They all hold in common a doctrine of karma, the law of cause and effect, which states that what one does in this present life will have its effect in the next life. In Hinduism the process of birth and rebirth is endless until one achieves moksha, or liberation (literally "release") from that process, so escaping from the process of death and rebirth (samsara).	