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Our Children, Our Community, Believe it can be done!

Headteacher's 'Thought for the week'

My message this week is on 'racial equality', which is something much more than mere racial tolerance.

Decades ago, Dr Martin Luther King delivered his "I have a dream" speech. All of us should try to live up to Dr King's vision "where each person would be judged by the content of their character, rather than skin colour, race or religion".

Tensions sometimes surface and the media does not always help. Differences are highlighted; the worst offenders are those who add fuel to the flames. Rather than resolving differences, tolerance is championed as the appropriate response to varying perspectives that have emerged.

Yet tolerance has no healing or cohesive power in society. It means little more than leaving one another alone. It leads to indifference, not understanding.

Tolerance allows the gulf between people to remain in place. In fact, there is little in the concept of tolerance to pull people away from racial isolation.

I was delighted that Bishop Curry from Chicago spoke so freely and with great enthusiasm, at the Royal wedding last Saturday, on the subject of love.

Dr King who died for his cause did not speak in times of tolerance, his ideal was love.

"Hate cannot drive out hate, only love can do that."

Dr King said it is through love that we can all overcome racial strife. The kind of love is tough love, one that confronts wrong and injustice with the truth.

At Broadway whatever our heritage; in our dealings with each other we should remember to use the acronym THINK.

T - is it true?

H - is it helpful?

I - is it inspiring?

N - is it necessary?

K - is it kind?

Our children, our community, believe it can be done.

Mr R. Skelton

May Half Term

All students will break up for May Half Term on **Friday 25th May at 2.35pm**. I look forward to welcoming them back to school on **Monday 4th June at 9.20am**.

Sports News

Broadway Raiders Star Signs New Two-Year Contract with Aston Villa

Broadway Raiders very own Natnael Kiros has signed a new two year deal with the championship club, taking him up to 2020. He has had an impressive season, finding the net over 30 times for The Villa and took part in their close 5-4 encounter with Liverpool at the weekend.



Broadway Shine at the Athletics Championships

Broadway's year 7 and 8 boys and girls travelled to Alexander Stadium last week and enjoyed a fun afternoon of athletics. All of the teams put in a good effort and did the school proud. The year 8 boys came away with more than memories though, as they scooped second place out of the 12 competing schools, qualifying for the Birmingham Championship Final in June. Kihone, who finished fourth in the nationals in February, led the way by winning the shot putt and finishing second in the 100m. Zuheib followed up with victory in the javelin and Salman took second place in the 800m.

Broadway Academy's community development shines through

Broadway do not just prepare students academically. The academy plays a vital part in the students' social and spiritual life. Many of the students give back to the school and remain involved for years to come. Ghazi, who is currently studying in sixth form, along with Shalim and Rezaul who graduated in the past two years have been awarded a place on the Level 1 FA Coaching course by Aston Villa. The three students managed to win these free places against hundreds of other applicants due to the hard work and time they have dedicated to Broadway Raiders and developing grass roots sports in the local area. They will all put their new skills to use for Broadway Raiders in the upcoming season, along with club Chairman and U13 coach, Mr Robbins.

Macbeth revision workshop with Niamh Cusack and Michael Hodgson



Sports News

Broadway Raiders make it to the semi finals.

Broadway Raiders U13's travelled to Solihull to defend their title at the annual Maypole tournament. After winning last year, hopes were high and Broadway won their group, only conceding one goal in the process. Unfortunately, they couldn't make it two finals in two years, as last year's runners up, Maypole, were able to come away with victory in the semi final and would go on to take this year's title. Broadway now look towards the upcoming Kempsey Colts tournament in a few weeks.

Kihone Shines for Birchfield Harriers in Coventry

Year 8 student Kihone is fast becoming one of Birchfield's most promising young talents. The team travelled to Coventry for their Midland league fixture on Saturday, where Kihone represented them in the the shot, high jump, long jump and relay. On a superb day, he equalled his best in the high jump (1.68), threw a PB in the shot (9.69m) and jumped a PB in the long jump (4.78).



Volunteers wanted to be Instructors for Cadets

- The Cadets unit was opened at Broadway Academy on Wednesday 14th March
- Jade Solomon runs Cadets on Monday and Wednesday after school at Broadway from 4.00pm
- Cadets have recruited year 8/9 students
- There will be 6 weekend camps in the year and 1 Summer camp
- Volunteers will be paid by the Cadets to attend camps during weekends
- There are many courses available for volunteers to train including rock climbing, ski-ing, range courses, weapon handling and to become Civilian Instructors, to name but a few
- Please view the website: <https://armycadets.com/county/warwickshire-and-west-midlands-south-acf/>
- Cadets would like to recruit staff and parents to become Instructors
- Please email Sharon.crow@broadway-academy.co.uk if you are interested in volunteering to become an Instructor for Cadets.

The Rise of Teenage Money Mules

Teenagers are being targeted by criminals in money laundering schemes wherein they are encouraged to give up their bank details in exchange for a percentage of illegal cash.

Money mules are individuals who give up their bank account details—either intentionally or unknowingly—to allow criminals to deposit large sums of money into their account. The money mule is then expected to withdraw the money and take it to a specified person, or is asked to make a bank transfer.

Usually, money mules get a percentage cut of the money they are laundering, but many are forced to act as money mules by threats of violence, whereas others are led to believe that they are fulfilling a genuine job role and do not realise that a crime is being committed.

Money laundering in any form is illegal in the United Kingdom. It is believed that criminals are targeting vulnerable teenagers because they can be easily convinced to hand over their bank details in exchange for a cut of the cash, and may not realise the true extent of the consequences they could face.

During the first half of 2017, over 4,000 young people under the age of 21 were found to be operating as money mules in the United Kingdom.

What are the consequences?

The consequences if found to be money laundering are severe. You could face imprisonment of up to 14 years, and in the very best of cases, your bank account will be closed and flagged as "misuse of facility", which has a serious impact on your credit score and can make it extremely difficult to open a new bank account for years. Some young people who have been caught money laundering have been given a 6-year ban on opening a new bank account. This level of consequence can obviously cause a variety of difficulties for young people at the start of their lives, particularly those studying at university who require a bank account in order to receive student loans, or young people looking for work who may be restricted to applying only for cash-in-hand jobs until they are able to open a bank account again.

What if you don't know that you've been used as a money mule?

The consequences still remain for people who are unaware that they have been used as money mules. The excuse, "I didn't realise what I was doing," won't stand up in court. This is why it's extremely important for parents to safeguard their children from being involved in money laundering crimes.

How do young people become money mules?

There are many circumstances under which a young person can become involved in money laundering.

There has been a recent spate of posts and profiles on social media that have been actively recruiting young people to get involved as money mules. Many of these posts make the crime sound like a job, promoting titles such as "UK Transfer Agent" and specifying that personal bank account details will need to be provided to carry out the role. There is usually a tempting promise of large sums of money in exchange for "an hour's work".

Other social media posts use a sort of code language, using phrases such as "5K drop" to describe the amount of money that needs to be laundered, and "squares and deets" as a term for bank cards and account details, instead of explicitly using words that might be tracked (e.g. transfer, bank details). This hints that there is a large network of young people out there who are tuned in to the activity and are actively seeking opportunities to work as money mules for these criminals.

Criminals have also been known to approach teenagers at the school gates or as they are walking home. They use forcible behaviour and make the youngsters feel threatened, or pester them enough with promises of a cut of the money that the individual eventually gives in and passes over their bank account details for the criminal to use.

What can I do if I think a young person has been used as a money mule?

The best approach if you believe a young person has been used as a money mule is to be honest and rational. Explain that you are trying to help them, and that there are more important things at stake here than a few hundred pounds of cash.

There are some very serious and damaging consequences that come from being involved in money laundering, so you should take care to describe the impact that these consequences could have on a young person's life, without scaring them too much that they decide not to disclose any information to you.

You should also take the time to explain that money has to be earned by working for it, and that "easy money" is something to always be suspicious of. There is no way that a small job would pay so highly if there wasn't massive risk involved. If it really was all easy and simple, everyone would be doing it.

Ask how and where they found out about being a money mule, then discuss their answer with them and make them reason with the idea that this source was not a reliable place to search for work.

Make sure that they are aware of how important it is to never tell anybody your bank details, especially not your

PIN number or the numbers on your bank card. Teach them that not even the people who work for banks will ever ask for this information on an email or phone call, and that, if anybody does, they are most likely trying to access your bank account illegally.

Finally, if you suspect that a young person has been involved in money laundering, make it a regular habit to sit down and check through their bank statements with them, or ask their parents to do this with them. Do they know the nature of all their transactions? Is there anything on their statement that they do not know about? If you find something that doesn't seem right, flag it and try to find out what it might be.

MRS S.K. CHAGGAR
SENIOR SAFEGUARDING LEAD

Ramadan 2018 - School day

Dear Parent/Guardian

RE: Ramadan 2018

I would like to inform you of some slight changes to our school day which we believe will help to engage students in their learning for the period of Ramadan.

Monday - Thursday		Friday
Period	Time	Time
Period 1	09:20 - 10:10	09:40 - 10:30
Period 2	10:10 - 11:00	10:30 - 11:20
Form	11:00 - 11:20	No Form
Break	11:20 - 11:35	11:20 - 11:35
Period 3	11:35 - 12:25	11:35 - 12:25
Period 4	12:25 - 13:15	12:25 - 13:15
Lunch	13:15 - 13:45	13:15 - 13:45
Period 5	13:45 - 14:35	13:45 - 14:35

From Monday 14th May to Friday 15th June 2018, the following arrangements will operate (with the exception of Fridays where there will be no Form Period):

Thank you for your fantastic support; it is always greatly appreciated. May you and your family have a Ramadan filled with peace and serenity and I hope the changes above allow you to spend more time with your family during your holy month.



Yours faithfully
Mr R Skelton
Headteacher

ASPIRATION FOR ALL

Do you believe you can achieve?

- We need to learn how to dream.
- Keep the dream alive, reach your goals.
- Some people don't decide to have a vision of what they want out of life. **NO GOALS!**
- People with aspirations / goals can see what they eventually want to achieve and they can see just how to get there.

THIS WEEK'S GOLDEN WORDS

Let no one steal your dreams.
Let no one tear apart
the burning of ambition
That fires the drive inside your heart.
Let no one steal your dreams
Let no one tell you that you can't
Let no one hold you back
Let no one tell you that you won't.
Set your sights and keep them fired
Set your sights on high.
Let no one steal your dreams
Your only limit is the sky.
Let no one steal your dreams
Follow your heart
Follow your soul
For only when you follow them
Will you feel truly whole.

STEM



Science • Technology • Engineering • Math

STEM Competitions & Challenges

STEM Workshops

STEM Events

STEM Trips

If you are interested please see
Ms Ayub in 010 or 07
Thursday lunchtime

BULLYING: Tips for children and young people

Are you a young person who's being bullied? Or maybe you're witnessing others being bullied? Either way there are ways around it. Here are the Broadway Academy anti-bullying tips for you:

It doesn't matter what colour hair you have; how you speak; how you walk; how you talk - it is not your fault if you get bullied. We are all different in some way and that's what makes us amazing.

Whether you are a boy or a girl, old or young, big or small - bullying makes you feel rubbish and it's okay to be upset about it. The important thing is that you tell someone about it.

If you feel you can, talk to a teacher you trust or your parents, brother or sister. If you don't want to do that you can always post it in the 'red worry box' [outside your SSM office] or leave a message on the SHARP system [this can be accessed via the website - remember to leave your name and form].

Keep a record of what happened, when it happened, and who was involved. If the bullying is online, keep the evidence - save or copy any photos, videos, texts, emails or posts.

It can be tempting if you are being bullied to retaliate - to send a horrible message back to someone, to try and embarrass and hurt the other person, or to fight back. This is not a good idea - you might end up getting into trouble or get yourself even more hurt.

Think about other ways you can respond to bullying. For example, practise saying: "I don't like it when you say that/do that - please stop." Think about other people who can help you if you are being bullied - this could be other classmates, or a teacher.

Only hang out with people who make you feel good about yourself. If someone constantly puts you down they are not a real friend and not worth your time.

Be kind to yourself, and do things that make you feel good, relax and make new friends. You might play an instrument; write lyrics; draw cartoons; dance; act or join a sports club. This is your life so make sure it's the best life possible - don't let anyone bring you down.

Remember to be kind to other people! Just because someone is different to you - that doesn't mean you are better than them or have a right to make them feel bad. If you mess up, say sorry. You don't have to be friends with everyone - but you should always show respect, make it clear that you don't like it when people bully others, and stick up for people who are having a hard time.

Tips for parents and carers

If your child is being bullied or you think they might be, here are some tips on how to talk to them and prevent further bullying:

If your child is being bullied, don't panic. Explain to your child that the bullying is not their fault and together you will sort this out.

Bullying is never acceptable; and should always be taken seriously. It is never your child's fault if they've been bullied.

Try and establish the facts. It can be helpful to keep a diary of events. If the bullying is online, save or copy images and text.

Find out what your child wants to happen. Help to identify steps you can take; and the skills they have to help sort out the situation. Make sure you always keep them informed about any actions you decide to take.

You may be tempted to tell your child to retaliate but this can have unpredictable results. Your child might get into trouble or get even more hurt. Rather - role play non-violent ways they can respond to children that are bullying them (e.g. "I don't like it when you say that to me / do that to me. Stop."); show them how to block or unfriend people if the bullying is online and help them identify other friends or adults that can support them.

Encourage your child to get involved in activities that build their confidence and esteem, and help them to form friendships outside of school (or wherever the bullying is taking place).

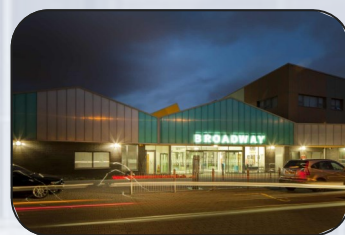
Get some advice:

Speak with your child's Student Support Manager or Student Support Assistant.

MRS S.K. CHAGGAR
ASSISTANT HEAD / DESIGNATED
SAFEGUARDING LEAD

School Improvement

Do you or your parents/carers have a good idea how to make our school *even better*?



Email your suggestions to :-

suggestions@broadway-academy.co.uk

We would like to encourage Parents/ Carers to speak to their children about Personal safety awareness and keeping safe while their young people are on their own.

Please help keep your child safe and talk about personal safety. Please read the top tips with them and discuss their questions or concerns. Explain to them why you are concerned so that they can empathise with your concerns and why they should adopt your concerns as theirs. This will only help to re-enforce the safety messages they receive in school.

People you do not know (strangers)

- Watch out for cars that are following you
- Never get into a car with a person you do not know
- Never approach a person you don't know sitting in a car
- Stay strong, saying no is not wrong
- Never tell a stranger your name or address
- Don't believe what strangers tell you
- Don't accept gifts, treats or sweets from strangers
- Keep your distance and never go anywhere with someone you don't know
- Trust your feelings, if it doesn't feel right, it isn't

Yell and Tell

- Don't be afraid to say no
- If a stranger makes you feel unsafe, always 'yell and tell'
- Yell 'help' or 'I don't know you' to get someone's attention - then tell someone you trust what has happened
- Don't let anyone make you feel unsafe

Know a Safe place

- A safe place is a place that has someone you can trust and talk to, such as a school, shop, police station or friend's house
- If someone does make you feel unsafe, always run to a safe place

When Playing Outside

- If a stranger comes near, be safe and call out so your parents can hear
- Never approach or talk to a stranger that comes into your garden
- If someone makes you feel unsafe go back inside and tell your parents about it

- Always play in an area where your parents can see you

Using a computer

- If someone asks you for personal information online remember "when online, always decline!"
- Don't give out your name or address to a stranger online
- Be careful who you talk to
- Never tell anyone you're home alone

Using a phone

- When on a phone stay in a safe place and say no in a firm tone
- Never tell a stranger your name or address
- Don't trust what a stranger tells you on the phone
- If you answer the phone and you don't know the person talking, always let your parents talk to them

When at home

- If you hear a knock on the door, day or night, don't invite strangers in, no matter what they say to you
- Never answer the door alone, even when your parents are home
- Never invite strangers into your home

Help your friends

- Always stay with your friends, family, or parents and never walk off
- Tell an adult you trust if you feel unsafe while with your friends
- If you see your friend do something that worries you tell them then tell an adult you trust

Going to and from school

- Never accept lifts from people you do not know
- If someone makes you feel scared or uncomfortable avoid them and tell an adult you trust
- Trust your feelings, if it doesn't feel right, it isn't
- If someone approaches you, you are allowed to ignore them
- Don't use short cuts where you will be on your own
- Walk with friends to and from school
- Carry a mobile phone that is charged, you don't need credit to phone 999
- Go to the nearest safe place if you feel unsafe such as a shop, home or school

When can you leave a child at home?

The law doesn't say an age when you can leave a child on their own, but it's an offence to leave a child alone if it places them at risk. Use your judgement on how mature your child is before you decide to leave them alone, e.g. at home or in a car.

The National Society for the Prevention of Cruelty to Children (NSPCC) says:

- Children under 12 are rarely mature enough to be left alone for a long period of time
- Children under 16 shouldn't be left alone overnight
- Babies, toddlers and very young children should never be left alone

Parents can be prosecuted if they leave a child unsupervised 'in a manner likely to cause unnecessary suffering or injury to health'. Under the Children and Young Persons (England and Wales) Act 1933, the Children and Young Persons (Scotland) Act 1937 and the Children and Young Persons (Northern Ireland) Act 1968, parents and carers can be prosecuted for neglect. This means that they can be fined or sent to prison if they are judged to have placed a child at risk of harm by leaving them at home alone, regardless of where in the UK the child lives.

Advice for leaving a child at home?

Whether you or your child are comfortable with the idea will often depend on how mature and adaptable your child is.

The advice below is there to help you make up your mind about whether leaving your child home alone is a good idea, as well as tips for choosing appropriate childcare if you decide it's not.

- Babies, toddlers and very young children should never be left alone
- Children under the age of 12 are rarely mature enough to cope in an emergency and should not be left at home alone for a long period of time
- Children under the age of 16 should not be left alone overnight
- Parents and carers can be prosecuted for neglect if it is judged that they placed a child at risk by leaving them at home alone
- A child should never be left at home alone if they do not feel comfortable with this, regardless of their age

- If a child has additional needs, these should be considered when leaving them at home alone or with an older sibling
- When leaving a younger child with an older sibling think about what may happen if they were to have a falling out - would they both be safe?

Questions to consider?

Would they know how to contact you or another family member or friend if they needed to?
Do they have these contact numbers to hand?
How would they feel about being left alone - pleased to be given the responsibility or scared by the thought of it?

If your child is over 16 and you think they're ready to be left alone overnight, let them know exactly where you are and how they can get in contact if anything goes wrong. And remember to have those conversations about who they'll invite over while you're away!

S.K.CHAGGAR

Senior Designated Safeguarding Lead

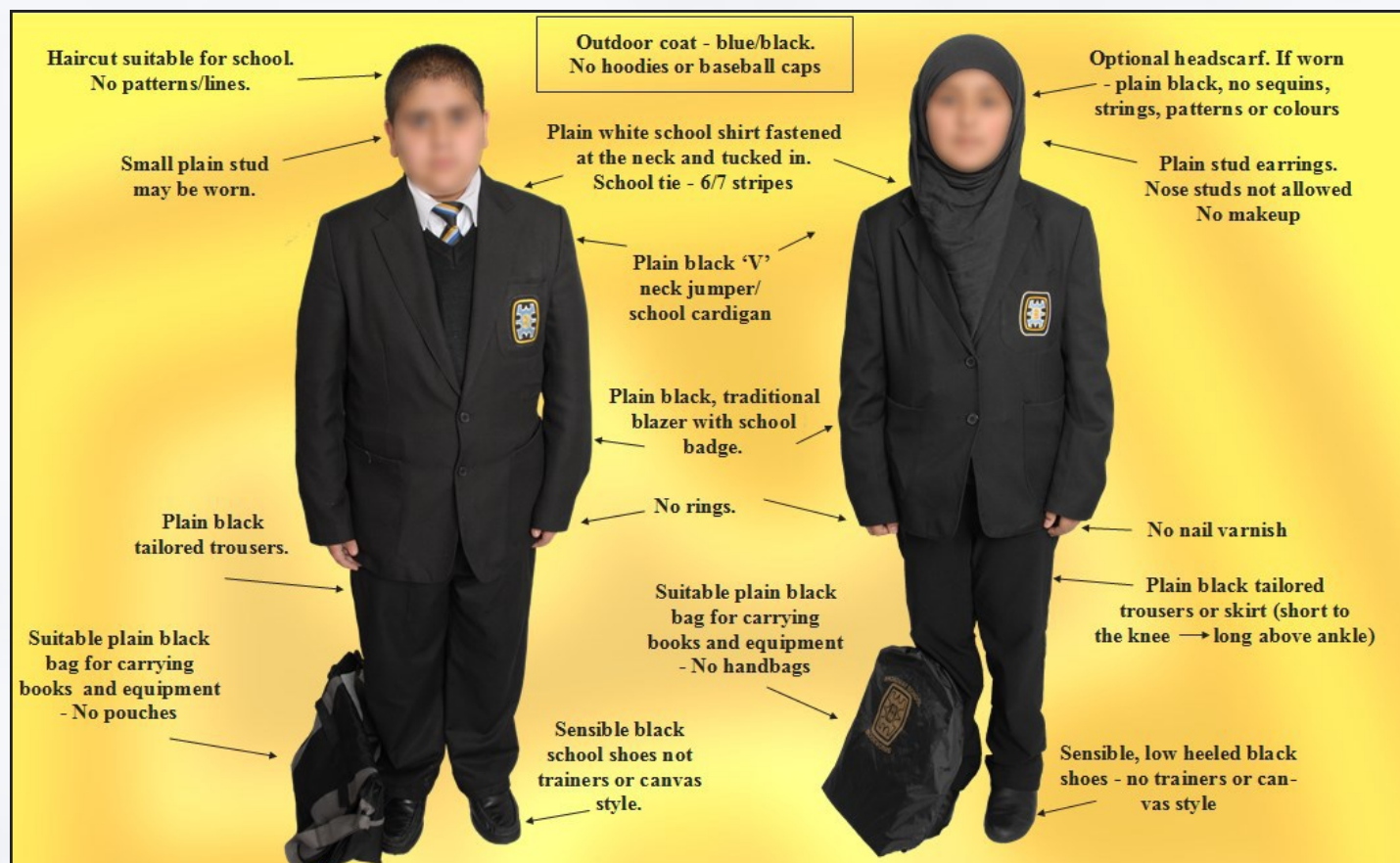
Geography - Name that Place!

This temple can be found in the continent of Asia, and within China's capital city. See Miss Laverty in Pi10 with the correct answer to claim your prize.



School uniform

The Broadway Academy uniform shows that pupils are part of an organisation. Wearing it says "we're all in this together" and are part of Team Broadway. Also, if you wear your uniform with pride, it means you are half way there to being respectful; buying into what the organisation is all about. Uniforms also give students a sense of belonging and create an identity for the school in the community. On that note, please note that "Hooded Jumpers", Caps or Trainers are not part of the Broadway uniform policy.



Order of the Academy day during Ramadan - 14th May to 15th June.

Monday - Thursday

Period	Time
Period 1	09:20 - 10:10
Period 2	10:10 - 11:00
Form	11:00 - 11:20
Break	11:20 - 11:35
Period 3	11:35 - 12:25
Period 4	12:25 - 13:15
Lunch	13:15 - 13:45
Period 5	13:45 - 14:35

Friday

Time
09:40 - 10:30
10:30 - 11:20
No Form
11:20 - 11:35
11:35 - 12:25
12:25 - 13:15
13:15 - 13:45
13:45 - 14:35

	Lunchtime			After School		
Monday	Yr 9 Badminton Yr9 / 10 Football Yr11 Football	S.Hall Astro GYM	Mr Hussain GW	Badminton (Pre-Booked session only) Yr8 Football	S.Hall Astro	Miss Bolton Mr Robbins
Tuesday	Yr11 Football Yr9 / 10 Football Trampolining	S.Hall Astro GYM	GW ST			
Wednesday	Yr11 Football Yr9 / 10 Football Girls Football	S.Hall Astro GYM	GW ST	Girls Fitness Yr11 Football	F.Suite Astro	Mrs Webb Mr Robbins
Thursday	Yr11 Football Yr9 / 10 Football Girls Football	S.Hall Astro GYM	GW Mr J Ahmed	Yr9 Football Basketball Table-Tennis (pre-booked sessions only)	Astro S.Hall GYM	Mr Taylor ST ST
Friday	Yr11 Football Yr9 / 10 Football Friday Prayers	GYM Astro Sports Hall	GW	Girls Football Judo	Astro Drama 2	Coach Coach

Interventions

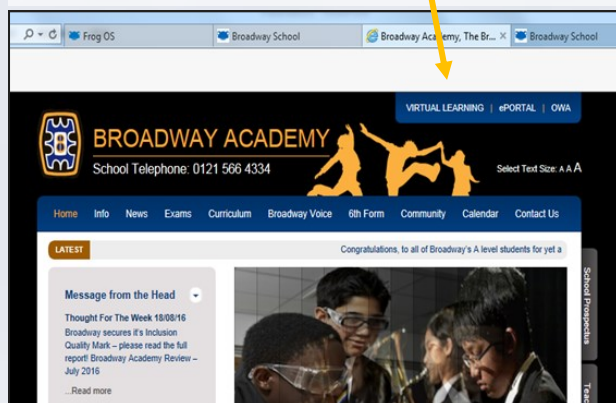
Art	Friday Lunch	All Years	R8	SD	Art Club
Design Technology	Lunchtimes	Year 10 & 11	R10	WB	D and T Coursework Club
Design Technology	Thursday Lunch	Year 11	R10	HO	Graphics Coursework Club
Design Technology	Thursday After school	Year 11	R3	RB	Textiles Coursework Club
Design Technology	Thursday After school	Year 11	R10	HO	Graphics Coursework Club
Design Technology	Friday After school	Year 11	R10	HO	Graphics Coursework Club
Design Technology	Friday After school	Year 11	R3	RB	Textiles Coursework Club
Health and Social Care	Tuesday After school	Year 9,10 & 11	R5	KP	Intervention
Languages	Tuesday and Wednesday Lunchtime	Year 9, 10, 11	G7	GS	Bengali Support

Extra-Curricular activities - Whole school

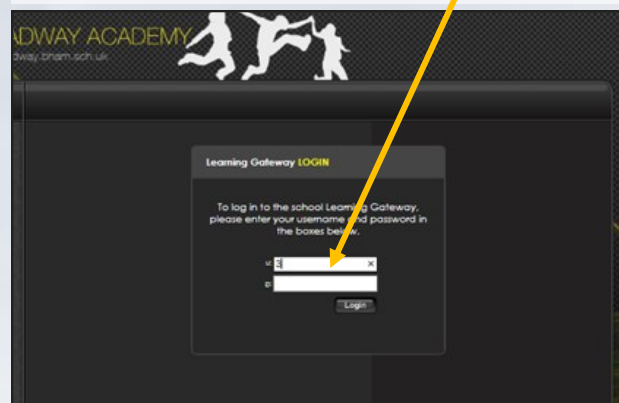
Art	Art Club	Friday	13.20-14.00	All Years	R8	SD
Careers	UCAS Progress/ Journey planning/ interview techniques	Thursday	15.05-16.00	Year 11	R1	Miss Williams
Design Technology	Food Club	Monday	15.05-16.05	All Years	R4	RB
Design Technology	Textiles Club	Monday	13.20-14.00	Year 7 & 8	R3	RB
Drama	School Play Rehearsals	Monday, Tuesday, Thursday	15.05- 16.30	All Years	Drama Studio	NF
English	LAMDA/Poetry by heart club	Monday	13.20-14.00	Year 7 & 8	Y3	RS
LRC	Reading Club	Monday	15.05 - 16.00	All Years	LRC	LRC Staff
LRC	Independent study session	Wednesday	15.05 - 16.00	All Years	LRC	LRC Staff
Maths	Chess Club	Wednesday and Thursday	13.20-14.00	Year 7	B10	TR/HD
Maths	Homework Club	Wednesday and Thursday	13.20-14.00	All Years	B2	TR/HD
Music	Singing Club	Tuesday	13.20-14.00	All Years	Pu1	Miss Chitate
Music	Guitar Club	Wednesday	13.20-14.00	All Years	Pu1	CL
Music	Drum Club	Thursday	13.20-14.00	All Years	Practice Rooms	CL
Prayers	Prayers	Friday	13.45-14.00	All Years	Sports Hall	AHY
SEND	Breakfast Club	Monday - Thursday	8.15-8.35	All Years	Red corridor	SEND team
SEND	Lunchtime Club	Monday - Thursday	13.40-14.00	All Years	Red corridor	SEND team
SEND	Afterschool Club	Monday - Thursday	15.05-15.40	All Years	Red corridor	SEND team
Science	Homework Club	Wednesday	13.20-14.00	All years	O3	GA

Homework on Frog - How to access your child's homework

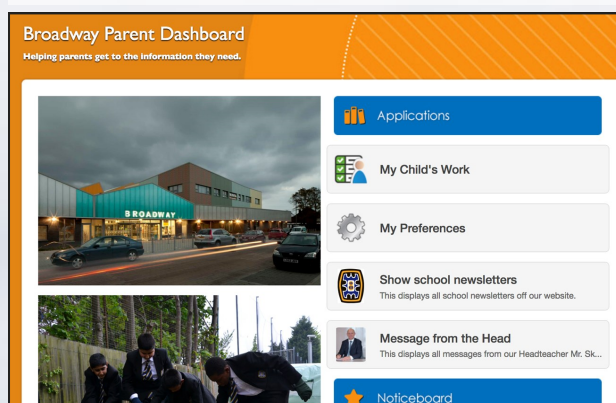
1 - Click on Virtual Learning (in blue, by the top right)



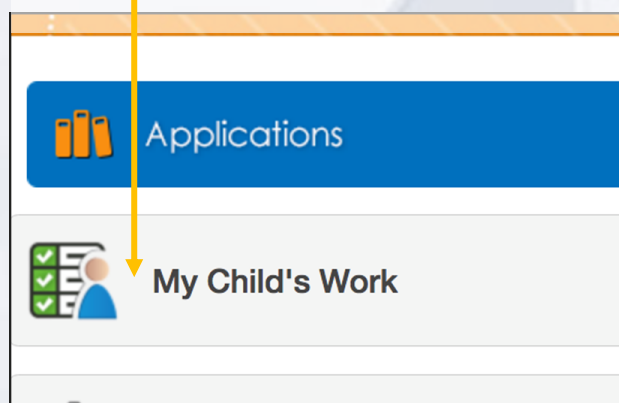
2 - Enter the username and password you have been given by school.



3 - Welcome to frog Parents.



4 - Click on the My Child's Work to see homework that has been set.



5a - Click the i button to read a review of the homework.

5b - Click the title of the home work to see details information.

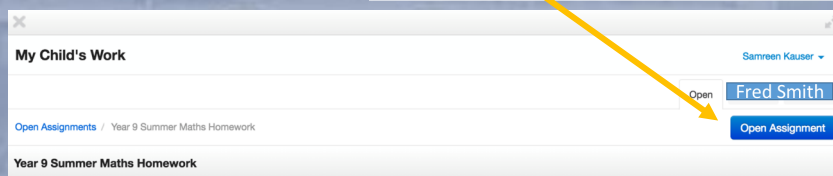
5c - If you have more than one child in the school, you can pick which child to view by clicking the arrow

My Child's Work

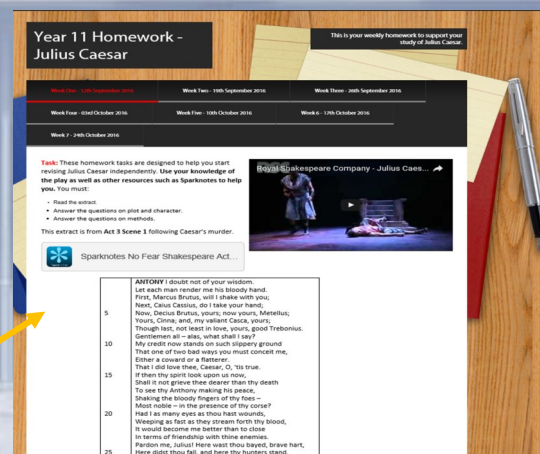
Open Assignments

	Assignment Name	Subject	Issue Date	Due Date	Teacher	Submitted	Mark Given
	Research on Trigonometry	Mathematics	12/09/2016	26/09/2016	S PAULY	Not Completed	Not Released
	Year 9 Summer Maths Homework	Mathematics	18/07/2016	10/09/2016	M DARR	Not Completed	Not Released

6 - Click the open assignment button to see the actual home work



7 - Here's an example of a piece of homework.



GCSE Maths - Edexcel

Key Dates

Paper 1 – Thursday 23rd May 2018 – Non-calculator

Paper 2 – Thursday 7th June 2018 – **Calculator**

Paper 3 – Tuesday 12th June 2018 – **Calculator**

- Make sure you have all the equipment needed for your exams!
- Bring your own **scientific calculator** to lessons and learn how to use it.

You must **memorise** the following **formulae** for your GCSE Maths exams.

Names of 2D Shapes



triangle
3 Sides



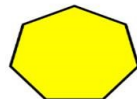
quadrilateral
4 Sides



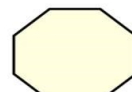
pentagon
5 Sides



hexagon
6 Sides



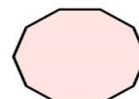
heptagon
7 Sides



octagon
8 Sides

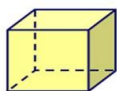


nonagon
9 Sides



decagon
10 Sides

Names of 3D Shapes



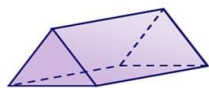
A cube



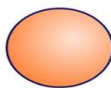
A square-based pyramid



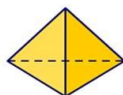
A cylinder



A triangular prism



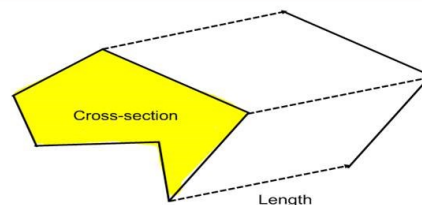
A sphere



A tetrahedron

Volume of a Prism

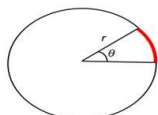
$$\text{Volume of prism} = \text{Area of cross-section} \times \text{length}$$



Arcs and Sectors

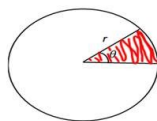
Higher ONLY

Arc Length - a part of the circumference



$$\text{Arc Length} = \frac{\theta}{360} \times \pi d$$

Area of a Sector - a part of the area



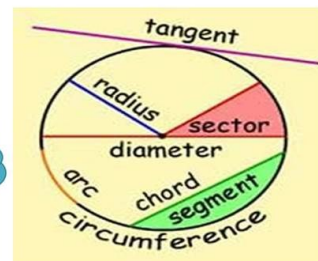
$$\text{Area of sector} = \frac{\theta}{360} \times \pi r^2$$

Circles

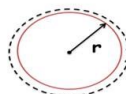
Area of a circle:



$$\text{Area} = \pi r^2$$



Circumference of a circle:

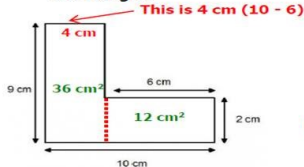


$$\text{Circumference} = 2\pi r$$

$$= \pi d$$

Compound Shapes

2 rectangles

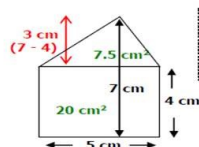


$$6 \times 2 = 12 \text{ cm}^2$$

$$9 \times 4 = 36 \text{ cm}^2$$

$$\text{Total Area} = 48 \text{ cm}^2$$

Compound shapes are made up of 2 or more shapes. Split the shapes up, find their areas and then add together. See the examples for more help.

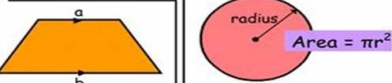
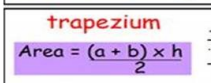
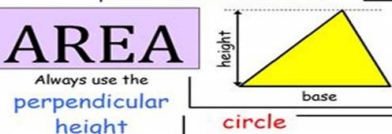
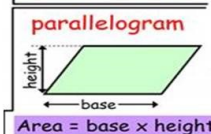
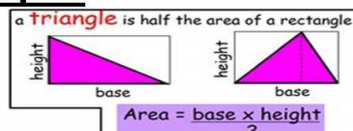
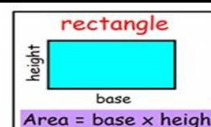


$$4 \times 5 = 20 \text{ cm}^2$$

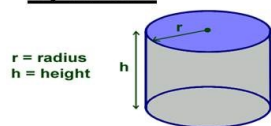
$$\frac{1}{2} \times 5 \times 3 = 7.5 \text{ cm}^2$$

$$\text{Total Area} = 27.5 \text{ cm}^2$$

Area of 2D Shapes



Cylinders

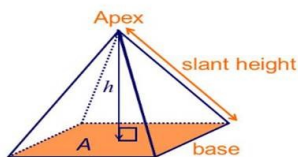


$$\text{Volume} = \pi r^2 h$$

$$\text{Total surface area} = 2\pi r^2 + 2\pi rh$$

Higher ONLY

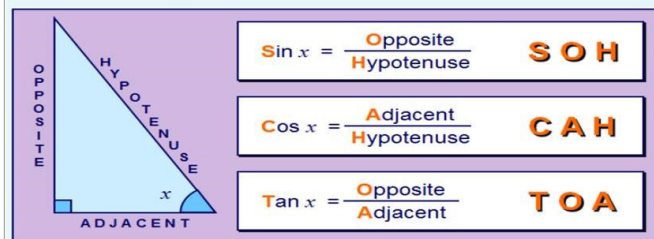
Pyramids



$$\text{Volume of a pyramid} = \frac{1}{3} \times \text{area of base} \times \text{height}$$

Trigonometry - Formulae for Right-Angled Triangles

The three trigonometric ratios

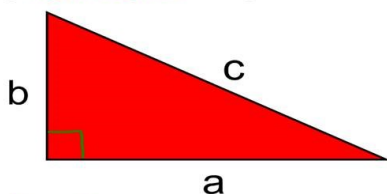


Remember: **SOH CAH TOA**

NOTE: Label opposite and adjacent sides depending on where the angle is.

Pythagoras' Theorem

For any right-angled triangle

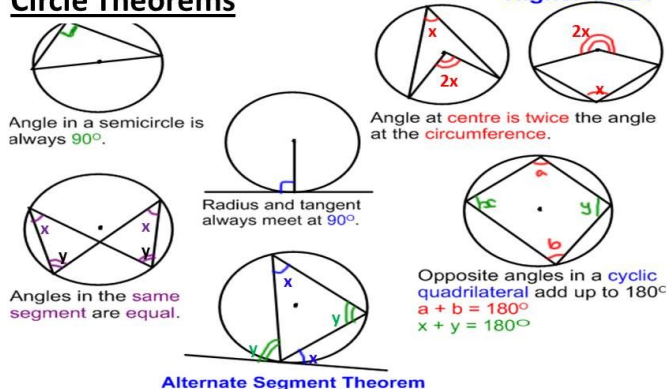


$$a^2 + b^2 = c^2$$

where c is the hypotenuse

Circle Theorems

Higher ONLY



Constructions and Loci

1. The locus from a point.

To find the locus from one point (for example 5 cm from point P), put your compass to 5 cm and draw a circle around the point.

In exam questions you don't always need to draw full circle but instead an arc will do.

2. The locus from a line.

To find the locus from a line (for example the line AB), draw two parallel lines from AB and then two semicircles, one from A and one from B. Make sure the semicircles have the same size radius as the parallel lines.

3. The locus from two points.

This is called the perpendicular bisector. Set your compass more than half way the distance between A and B. Draw two arcs from A and two arcs from B. These will cross. Finally draw a straight line from where the two arcs crossed all the way through.

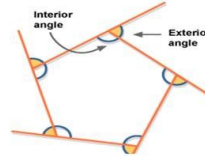
In the exam, look out for the phrase "equidistant from A and B".

4. The locus from two lines.

This is called the angle bisector. Draw two arcs from O (to create A and B). Draw another set of arcs, from A and B. These will cross at C. Finally draw a line from O to C.

In the exam, look out for the phrase "equidistant from OX and OY".

Angles in Polygons



$$\text{Interior angle} + \text{Exterior angle} = 180^\circ$$

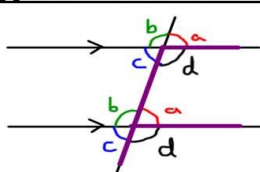
Total interior angles

$$\text{of an } n\text{-sided shape} = (n - 2) \times 180^\circ$$

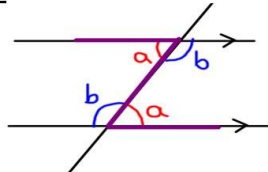
POLYGON	NO. OF SIDES	SUM OF INTERIOR ANGLES
TRIANGLE	3	$(3-2) \times 180 = 180^\circ$
PENTAGON	5	$(5-2) \times 180 = 540^\circ$
OCTAGON	8	$(8-2) \times 180 = 1080^\circ$

$$\text{Sum of Exterior Angles} = 360^\circ \text{ for any shape}$$

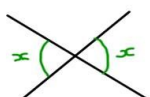
Angles in Parallel Lines



Corresponding Angles (F Angles) are the same.



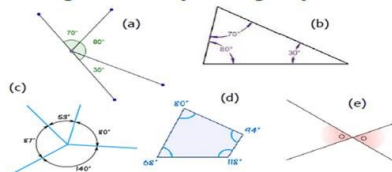
Alternate Angles (Z Angles) are the same.



Vertically opposite angles are the same

Angles Facts

Angles are easy as long as you know the facts

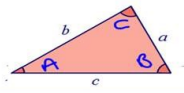


1. The basics facts

- (a) Angles on a straight line equal 180°
- (b) Angles in a triangle equal 180°
- (c) Angles around a point equal 360°
- (d) Angles in a quadrilateral equal 360°
- (e) Opposite angles are the same

Trigonometry - Formulae for Non Right-Angled Triangles Higher ONLY

For any triangle ABC,



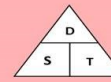
The Sine Rule: $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$ or $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$

The Cosine Rule: $a^2 = b^2 + c^2 - (2bc \cos A)$

Area: $\frac{1}{2} ab \sin C$ **NOTE:** The angle must be between the two sides.

Compound Measures

Speed Distance Time

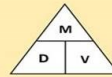


$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$\text{Distance} = \text{Speed} \times \text{Time}$$

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

Mass Density Volume

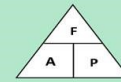


$$\text{Volume} = \frac{\text{Mass}}{\text{Density}}$$

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

$$\text{Mass} = \text{Density} \times \text{Volume}$$

Force Area Pressure



$$\text{Pressure} = \frac{\text{Force}}{\text{Area}}$$

$$\text{Area} = \frac{\text{Force}}{\text{Pressure}}$$

$$\text{Force} = \text{Area} \times \text{Pressure}$$

Completing the square Higher ONLY

When **completing the square** of the quadratic

$$ax^2 + bx + c$$

where **a = 1**

Write it in the form

$$(x + b/2)^2 - (b/2)^2 + c$$

The question may ask you to **express** a quadratic in the form $(x + a)^2 + b$

The Quadratic Formula

The **quadratic formula** is used to solve quadratic equations which do not factorise.

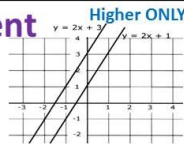
For **any quadratic equation** in the form $ax^2 + bx + c = 0$, the solutions are found using:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

NOTE: The $\pm$ means you will get two solutions. Always work out the bit in the **square root** first before calculating the rest using a calculator. **You will need to memorise this formula!**

Parallel Lines have the same gradient Higher ONLY

"They go up (or down) by the same steepness!"



Perpendicular Lines (cross at right angles [90°]): Their **gradients multiply to give -1**

$$y = mx + c$$

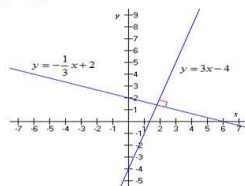
$$y = -mx + c$$

$$m \times -m = -1$$

$$y = 3x - 4$$

$$y = -1/3x + 2$$

$$-1/3 \times 3 = -1$$

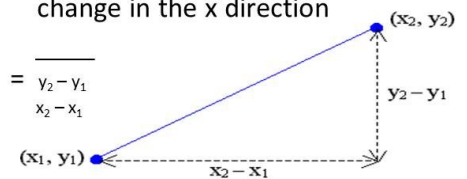


Midpoint of a line (segment)

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

Gradient of a line = $\frac{\text{change in the y direction}}{\text{change in the x direction}}$

$$= \frac{y_2 - y_1}{x_2 - x_1}$$



Geometry of Straight Lines

NOTE: Gradient represents the rate of change.

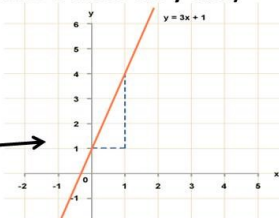
$$y = mx + c$$

Gradient of the line (how steep it is)

y-intercept (where the line crosses the y-axis)

$$y = 3x + 1$$

For every 1 it goes along, it goes 3 up (gradient). It crosses the y-axis at +1 (y-intercept)



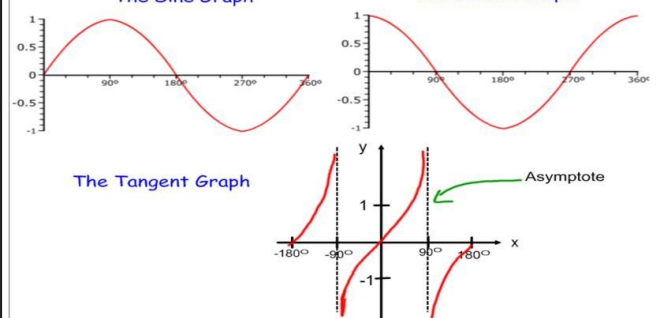
The Three Trigonometrical Graphs Higher ONLY

The Sine Graph

The Cosine Graph

The Tangent Graph

Asymptote



Laws of Indices

$$\begin{aligned}
 a^m \times a^n &= a^{m+n} & n^3 \times n^4 &= n^7 \\
 (a^m)^n &= a^{mn} & (n^4)^5 &= n^{20} \\
 a^m \div a^n &= a^{m-n} & n^5 \div n^3 &= n^2 \\
 a^{-m} &= \frac{1}{a^m} & 5^{-3} &= \frac{1}{5^3} = \frac{1}{125} \\
 \frac{1}{a^n} &= a^{-n} & 27^{1/3} &= \sqrt[3]{27} = 3 \\
 a^{\frac{m}{n}} &= \sqrt[n]{a^m} & 8^{2/3} &= (\sqrt[3]{8})^2 = 2^2 = 4 \\
 a^0 &= 1 & n^0 &= 1
 \end{aligned}$$

Averages

There are 3 types of averages – the mean, median and mode. The range is not an average.

Find the mean, median, mode and range of:

4, 3, 8, 2, 3, 7, 3, 12

Add them up: $3 + 4 + 8 + 2 + 3 + 7 + 3 + 12$
Mean = $42 \div 8 = 5.25$

Median (put in order) 2, 3, 3, 3, 4, 7, 8, 12

Median = $\frac{3+3}{2} = 3$ (in the middle of 3 and 4)

Mode = 3 (most common)

Range = $12 - 3 = 9$

1. The basics (use the examples on the left)

The **mean** is when you add up all the values and divide by how many values you have.

The **median** is the middle value when the values are put in order.

The **mode** is the most common value.

The **range** is the highest value take the smallest value.

Surds

Higher ONLY

Example

Simplify

$$(4 + 3\sqrt{2})(3 - 2\sqrt{2})$$

Expand.

$$= 4 \times 3 - 4 \times 2\sqrt{2} + 3\sqrt{2} \times 3 - 3\sqrt{2} \times 2\sqrt{2}$$

$$= 12 - 8\sqrt{2} + 9\sqrt{2} - 6 \times 2$$

$$= 12 - 12 + (-8 + 9)\sqrt{2}$$

Collect terms.

$$= \sqrt{2}$$

Surds

Higher ONLY

Law 1 $\sqrt{a} \times \sqrt{a} = a$

$$\sqrt{7} \times \sqrt{7} = 7$$

Law 2 $\sqrt{a} \times \sqrt{b} = \sqrt{a \times b}$

$$\sqrt{5} \times \sqrt{8} = \sqrt{5 \times 8} = \sqrt{40}$$

Law 3 $\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

$$\sqrt{\frac{25}{9}} = \frac{\sqrt{25}}{\sqrt{9}} = \frac{5}{3}$$

Rationalising the denominator:

$$\frac{8\sqrt{3}}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{8\sqrt{6}}{2} = 4\sqrt{6}$$

Broadway Academy Community Centre

FACILITY	PRICE	
	(All bookings are on the hour and are for 55 minutes)	
	ADULT	JUNIOR
Artificial Turf (Half Pitch)	£25.00	
Artificial Turf (Full Pitch)	£45.00	
Fitness Suite	£2.00 per session	
Fitness Suite (Membership)	£10 per month	
Sports Hall	£30.50	£26.00
Gymnasium	£20.00	£15.00
Class Rooms	£10.00	
Badminton Per Court (Sports hall)	£6.50	
Badminton Per Court (Gymnasium)	£6.50	
Table Tennis (per table)	£3.50	£3
Drama / Dance Studio	£20	£20
Main Hall	POA	POA



BROADWAY ACADEMY COMMUNITY CENTRE

Our Children, Our Community, Believe it can be done!
Head teacher: Ronald Skelton, M.Ed. B Phil. B.Ed (Hons). NPQH. LLE. FRSA



Function Halls Available



Birthday Parties

Mendhi

Conferences

Weddings

**Contact the Community
Centre for further details**

Community Centre Manager: Mr D Rahman

Email: communitycentre@broadway-academy.co.uk

Website: www.broadway-academy.co.uk

The Broadway, Perry Barr, Birmingham, B20 3DP

Contact Number 0121 566 4345



BROADWAY ACADEMY COMMUNITY CENTRE

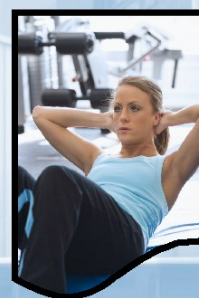
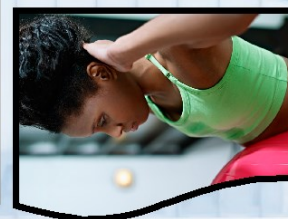
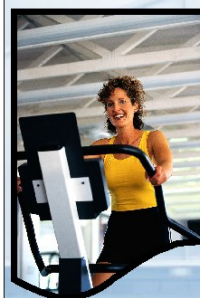
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Ladies Only Gym Session

Thursday 6.00pm - 8.00pm

Sunday 4.00pm - 7.00pm



£2.00 per session

Membership £10 per month

Community Centre Manager: Mr D Rahman

Email: communitycentre@broadway-academy.co.uk

Website: www.broadway-academy.co.uk

The Broadway, Perry Barr, Birmingham, B20 3DP

Contact Number 0121 566 4345

Karate Academy

Tuesday

7.00pm - 8.00pm



For further information

Tel: 01543 480990 / 07894 948010

Website: www.lichfieldkarateacademy.co.uk

Email: info@lichfieldkarateacademy.co.uk



BROADWAY ACADEMY COMMUNITY CENTRE

Our Children, Our Community, Believe it can be done!



Broadway Community Club

Saturday 10.00am - 2.00pm

**£1
per
person**



Community Centre Manager: Mr D Rahman

Email: communitycentre@broadway-academy.co.uk

Website: www.broadway-academy.co.uk

The Broadway, Perry Barr, Birmingham, B20 3DP

Contact Number 0121 566 4345