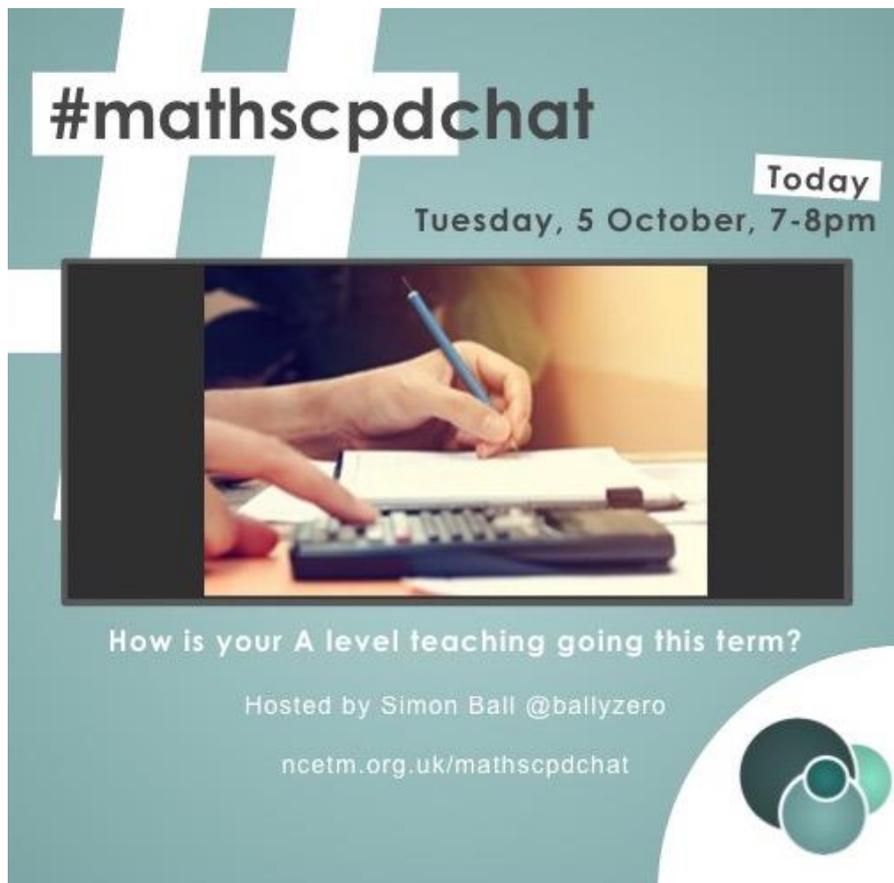


## #mathscpdchat 5 October 2021

How is your A level teaching going this term?

Hosted by [Simon Ball](#)

*This is a brief summary of the discussion – to see all the tweets, follow the hashtag **#mathscpdchat** in Twitter*



The graphic features a teal background with a large white hashtag #mathscpdchat. To the right, it says 'Today Tuesday, 5 October, 7-8pm'. Below this is a video thumbnail showing hands writing on a notepad and using a calculator. At the bottom, it asks 'How is your A level teaching going this term?' and provides the host's name '@ballyzero' and the website 'ncetm.org.uk/mathscpdchat'. The NCETM logo is in the bottom right corner.

#mathscpdchat

Today  
Tuesday, 5 October, 7-8pm

How is your A level teaching going this term?

Hosted by Simon Ball @ballyzero

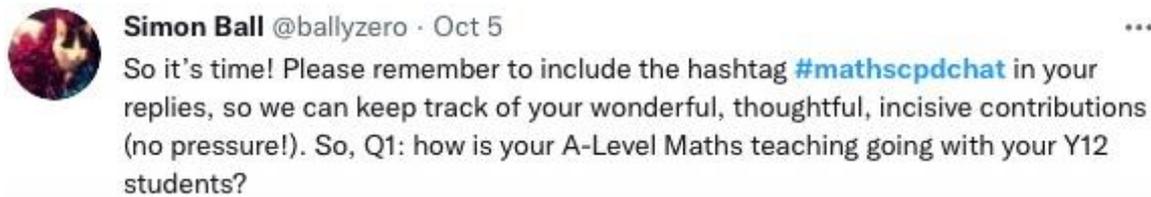
[ncetm.org.uk/mathscpdchat](http://ncetm.org.uk/mathscpdchat)

The only link shared during this discussion was:

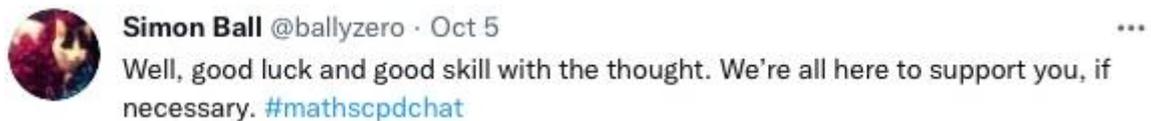
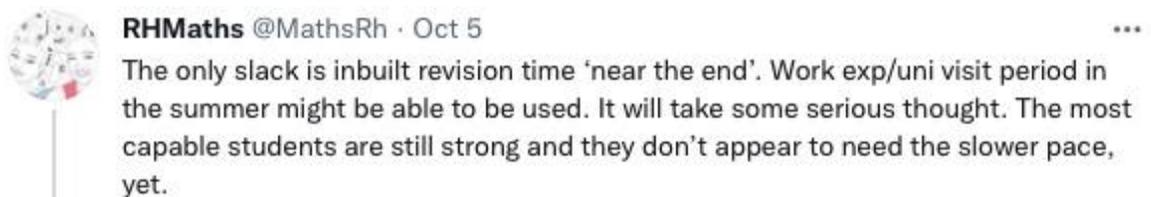
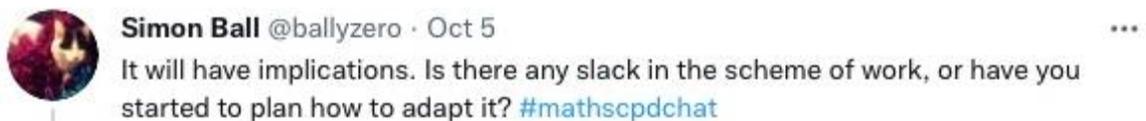
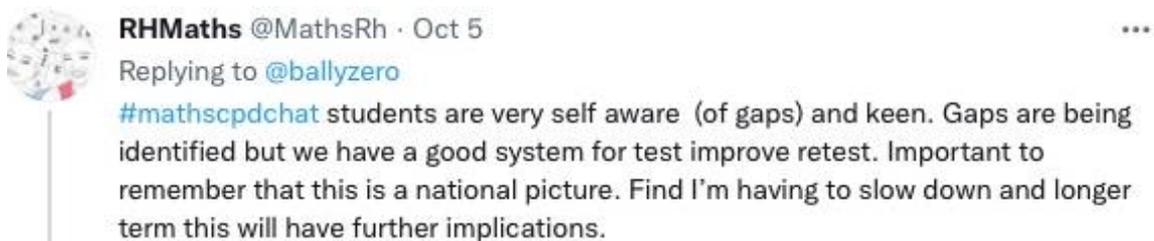
[A level maths - Year 13 recovery](#) which is the YouTube channel of [Tayyub Majeed](#), in which he works through A level questions in order to help his students. It was shared by [Tayyub Majeed](#)

The screenshots below, of chains of tweets posted during the chat, show three conversations about teaching students in Y12 this term. In particular teachers discussed how they and their students are coping with 'gaps' in the students' KS4 learning. **Click on any of these screenshots-of-a-tweet to go to that actual tweet on Twitter.**

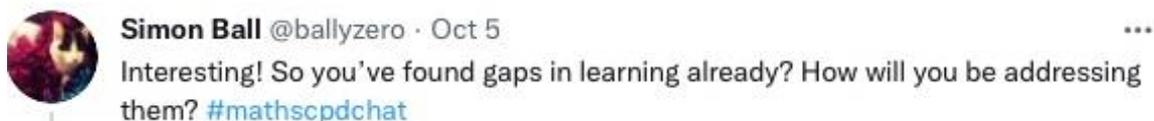
The conversation was generated by this tweet from [Simon Ball](#):



and included these from [RHMaths](#) and [Simon Ball](#):



these from [Nathalie Leighton](#) and [Simon Ball](#):



 **Nathalie Leighton** @LeightonM4ths · Oct 5 ...  
#mathscpdchat going back to linear inequalities regions and then with quadratics. And hopefully homework tasks will do the practice side as I hadn't planned a whole lesson in this. 😞

 **Simon Ball** @ballyzero · Oct 5 ...  
I can imagine! Looking at it from the other side, has there been anything they've been really good at? #mathscpdchat

 **Nathalie Leighton** @LeightonM4ths · Oct 5 ...  
#mathscpdchat they are aware that they have gaps so do not seem to be too phased and really keen to learn. They have done GCSE statistics so hoping to make up time when we do stats 🙌

 **Simon Ball** @ballyzero · Oct 5 ...  
Now that's a big part of it, right there! Determination and work ethic are so important for the course. And fingers crossed the time can be made up! Good luck and good skill with them. #mathscpdchat

 **Nathalie Leighton** @LeightonM4ths · Oct 5 ...  
Thanks

and these from [Rob Southern](#), [Simon Ball](#) and [Mary Pardoe](#):

 **@mrsouthernmaths** @mrsouthernmaths · Oct 5 ...  
Replying to @ballyzero and @LeightonM4ths  
I'm not teaching Year 12 this year but I'm in charge of intervention so I am working with a group of students. The key skills on Dr Frost are great, supported by my videos. @PCMaths has made some brilliant Desmos classroom activities as well #mathscpdchat

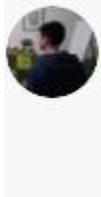
 **Simon Ball** @ballyzero · Oct 5 ...  
So students have been identified already? Are they making progress under your brilliant and incisive tutelage? #mathscpdchat

 **@mrsouthernmaths** @mrsouthernmaths · Oct 5 ...  
You charmer! We've only had one session so far, working on indices but the feedback was positive. I think they appreciate the opportunity for extra guided practice. #mathscpdchat

 **Simon Ball** @ballyzero · Oct 5 ...  
An important foundational topic for both early and late in the course. Will they have many supportive sessions with yourself? And thank you! 😊 #mathscpdchat

 **@mrsouthernmaths** @mrsouthernmaths · Oct 5 ...  
Weekly lunchtime taught sessions, one for Year 12 and one for Year 13. I tend to set them some consolidation work to lead into the next session. Year 13 have been working on hypothesis testing and we'll be doing critical regions this week. #mathscpdchat

 **Mary Pardoe** @PardoeMary · Oct 5 ...  
Replying to @mrsouthernmaths @ballyzero and 2 others  
Working on hypothesis testing sounds interesting ... how have they been doing that? #mathscpdchat

 **@mrsouthernmaths** @mrsouthernmaths · Oct 5 ...  
We've been reviewing the Year 12 content, so only binomial. I have found the key is to do small bits at a time, so we started with binomial probability, then ones where you have to use a binomial to calculate another binomial, then HTs. The DFM key skills have been invaluable.

 **Simon Ball** @ballyzero · Oct 5 ...  
It's so amazing to me - and possibly slightly off-topic! - that sequencing is now entirely up for grabs. I'm teaching the big integration topics (substitution, parts, partial fractions) at the moment. Thanks for sharing! #mathscpdchat

The following screenshots show a conversation about the teaching and learning of Y13 students. It focusses on ways of helping students deepen their grasp of what they were taught in the unusual context of their Y12. **Again, click on any of these screenshots-of-a-tweet to go to that actual tweet on Twitter.** The conversation was generated by this tweet from [Simon Ball](#):

 **Simon Ball** @ballyzero · Oct 5 ...  
Q2: how is your A-Level Maths teaching going with your Y13 students?  
#mathscpdchat

and included these from [Rob Southern](#), [Mary Pardoe](#), [Dawn Denyer](#) and [Tayyub Majeed](#):

 **@mrsouthernmaths** @mrsouthernmaths · Oct 5 ...  
Replying to @ballyzero  
Something I've found really effective with Year 13 is revision sheets - homework assignments covering Year 12 content and drip feeding in the new stuff. They have forced them to review Year 12 work, which they may well not have done otherwise. #mathscpdchat

 **Mary Pardoe** @PardoeMary · Oct 5 ...  
Replying to @mrsouthernmaths and @ballyzero  
A supportive strategy for them too ... something (even vaguely) familiar with only a little new stuff. #mathscpdchat

 **Dawn MA NPQSL** ❤️ ✕ ÷ + - @mrsdenyer · Oct 5 ...  
Yes I use similar a skills check section based on things we need to know from year 12 #mathscpdchat

 **Simon Ball** @ballyzero · Oct 5 ...  
That revisiting is so important, isn't it? Does it improve student performance for your groups? #mathscpdchat

 **Dawn MA NPQSL** ❤️ ✕ ÷ + - @mrsdenyer · Oct 5 ...  
It has made a big difference to recall.



**Simon Ball** @ballyzero · Oct 5

...

Replying to @mrsouthernmaths

Absolutely vital to go back over things. Our first assessment is pure Y12 topics (and Pure Y12 topics, ha ha) for just that reason! #mathscpdchat



**@mrsouthernmaths** @mrsouthernmaths · Oct 5

...

I'm trying to introduce them in Year 12 as well. Giving the students continual practice means you can build on more solid foundations and then the revision period is actually revision rather than relearning. Here's a couple of examples #mathscpdchat

### Pure and Mechanics Revision Sheet 1.

#### Pure questions:

- 1) The lines  $l_1$  and  $l_2$  have equations  $y = 3x - 2$  and  $2y + 4x = 10$  respectively.
  - a) Find the gradients of **both** lines. (3)
  - b) Find the coordinates of the point of intersection of the lines  $l_1$  and  $l_2$ . (5)
  - c) The line  $l_3$  is parallel to the line  $l_1$  and passes through the point with coordinates  $(4, -3)$ . Find the equation of line  $l_3$ . (4)
  - d) The line  $l_2$  cuts the  $x$ -axis and  $y$ -axis at points A and B respectively. Find the coordinates of points A and B. (4)

2)

The straight lines with equations

$$y = 3x + c \text{ and } y = 2x + 7$$

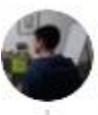
intersect at the point  $P(2, k)$ , where  $c$  and  $k$  are constants.

Find the value of  $c$  and the value of  $k$ . (4)

### Pure and Statistics Revision Sheet 1

Pure questions – Do not use a calculator. Show all your working out.

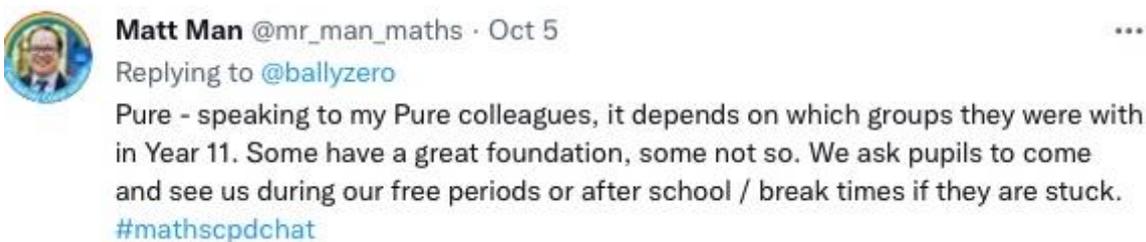
- 1) Write down the value of  $64^{\frac{1}{3}}$  (1)
- 2) Find the value of  $64^{-\frac{2}{3}}$  (2)
- 3) Simplify  $(4\sqrt{3})^2$  (2)
- 4) Simplify  $\frac{6\sqrt{3}-4}{8-\sqrt{3}}$ , giving your answer in the form  $p\sqrt{3}-q$ , where  $p$  and  $q$  are positive rational numbers. (4)
- 5) Given that  $8\sqrt{2} = 2^m$  find the value of  $m$ . (2)
- 6) a) Find the value of the discriminant of  $x^2 + 6x + 11$  (1)
- b) Given your answer to part a), determine how many roots the equation  $x^2 + 6x + 11 = 0$  has. (1)

-  **Simon Ball** @ballyzero · Oct 5 ...  
What a fabulous system. We all have to work towards revision being revision, rather than relearning. What a great way to look at it! [#mathscpdchat](#)
-  **Mary Pardoe** @PardoeMary · Oct 5 ...  
Interesting word 'revision' ... re -vision ... re-seeing! [#mathsCPDchat](#)
-  **@mrsouthernmaths** @mrsouthernmaths · Oct 5 ...  
The sheets are most effective if students complete them in a book so that they can track common errors. I also encourage them to use two different colour pens depending on whether they could do a question independently or needed help/to check notes. [#mathscpdchat](#)
-  **Mary Pardoe** @PardoeMary · Oct 5 ...  
Replying to [@mrsouthernmaths](#) and [@ballyzero](#)  
What a good idea ... they then have a history of their own thinking ... stages in their thinking-development? [#mathscpdchat](#)
-  **@mrsouthernmaths** @mrsouthernmaths · Oct 5 ...  
Exactly. Often students will get high scores for homework if they have used their notes or had help and this approach helps them to self-diagnose what they need to work on. [#mathscpdchat](#)
-  **Simon Ball** @ballyzero · Oct 5 ...  
So simple, but so good an idea! It's vital for students to take charge of their own learning, and simple things like that can really make a difference. I have students asking for extra questions at the moment to fill in their skills gaps.  
[#mathscpdchat](#)
-  **@mrsouthernmaths** @mrsouthernmaths · Oct 5 ...  
Replying to [@ballyzero](#)  
Year 13 have come back with really good focus. Most of the ones who have gaps from Year 12 have self-identified for intervention, which is really encouraging. They are also being proactive in seeking help with assignments before deadlines.  
[#mathscpdchat](#)
-  **Simon Ball** @ballyzero · Oct 5 ...  
I have spotted an uptick in desire for support with assignments too! I tend to find that the UCAS process makes this happen naturally - do you see any difference between this year and previous years? [#mathscpdchat](#)
-  **@mrsouthernmaths** @mrsouthernmaths · Oct 5 ...  
Not really, to be honest. I agree that UCAS sharpens their focus. Interestingly, Year 13 seem far less concerned by the uncertainty over exams than my Year 11s.  
[#mathscpdchat](#)
-  **Simon Ball** @ballyzero · Oct 5 ...  
Hmmm! I wonder if that will change as the exams get closer?! [#mathscpdchat](#)

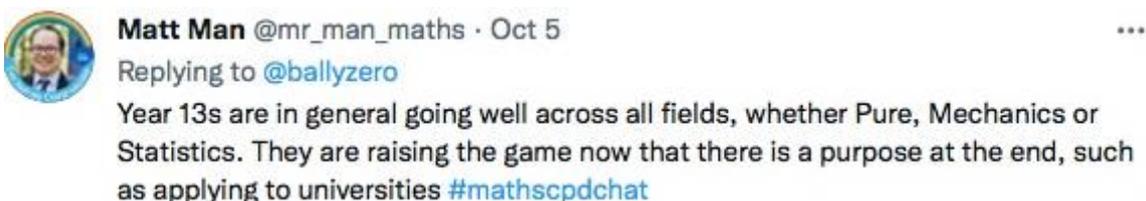


(to read the discussion-sequence generated by any tweet look at the 'replies' to that tweet)

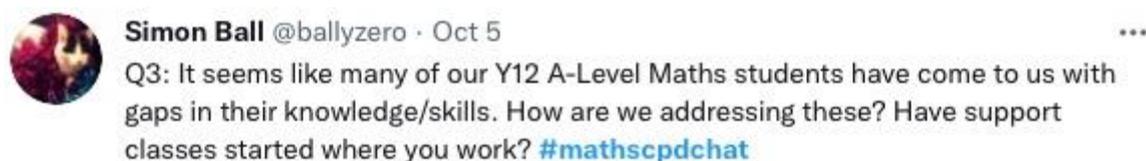
The discussions shown in the sequences of screenshots of tweets reproduced above were generated by the host's first two questions. There were also these three replies to Q1 which were not part of any conversations because they were tweeted after the chat had officially ended...



... and this reply to Q2 from the same contributor:



The third question from Simon (the host) was an opportunity for teachers to provide more information about the main issue that Q1 had raised:



This short conversation ...

 **RHMaths** @MathsRh · Oct 5 ...  
Replying to @ballyzero  
#mathscpdchat We have twice weekly support after school which is voluntary and directed. Culture of working to address gaps is reasonably strong, fortunately. They are student led rather than 'taught' sessions; students ask for individual help where needed

 **Simon Ball** @ballyzero · Oct 5 ...  
Excellent. That sounds like a great system! Is it new this year? #mathscpdchat

 **RHMaths** @MathsRh · Oct 5 ...  
No. We also do regular assessments and have a quick turnaround for resitting these so students must act quickly to address issues #mathscpdchat

... provided a reminder that studying maths at A level challenges students to master many new mathematical ideas in quite a short time:

 **Simon Ball** @ballyzero · Oct 5 ...  
It's important to improve quickly in A-Level Maths, because it's all too easy to get swamped with new content that's built on it. Do you find that students improve quickly, in general? #mathscpdchat

There was a reply to Q3 that was tweeted too long after the chat had ended to be part of a conversation, but again it is a reminder about the time-pressure that both students and teachers are presently under:

 **Matt Man** @mr\_man\_maths · Oct 5 ...  
Replying to @ballyzero  
Giving the CGP book on bridging the gap between GCSE and A Level has helped for those who are determined. Some not so... I am thinking about getting some Year 12 revision sessions going... but already doing Year 11s already after school. Time is of essence, eeeppp #mathscpdchat