Frequently asked questions

Note that the information below is subject to change and that the rules for Ritangle will be published in a separate document released at the start of Ritangle 2020 (October 5th 2020).

What is Ritangle?

- Ritangle is a free maths competition aimed at teams of sixth form/ college students running over approximately 10 weeks in the Autumn term. It's made up of around 24 'first round' questions, released daily on weekdays, which unlock clues necessary to solve the final multi-part question.
- The first round questions are released at 09:00 GMT via the Ritangle webpage (www.integralmaths.org/ritangle) and Integral Twitter feed (https://twitter.com/Integral_Maths) over a period of approximately 10 weeks.
- The final question is released at 16:00 GMT via the Ritangle webpage (www.integralmaths.org/ritangle) and Integral Twitter feed (https://twitter.com/Integral_Maths).
- The dates of release for the question are available in the Information and Rules document which is published each year at the start of the competition. Teams are required to read and agree to the Information and Rules document when they register.

Who is Ritangle aimed at?

- Students studying A level Maths/Further Maths, Scottish Highers or International Baccalaureate anywhere in the world.

Is it free to enter?

- Yes! Questions are released over a period of approximately 10 weeks to the Ritangle webpage (www.integralmaths.org/ritangle) and to the Integral Twitter feed (https://twitter.com/Integral_Maths).

How do you say 'Ritangle' ?

- Ritangle is pronounced like 'right angle' or 'wry tangle'.

What can I win?

- Every team who submits a complete set of correct answers to the final question, prior to the correct answers being published (or being made available elsewhere on the web), will receive a certificate by email to the a teacher in their school.

- The prize will be a maths hamper, including an Integral subscription for the school/college, and a trophy, and this will be awarded to the school of the winning team. Due to postage costs we reserve the right to substitute a prize of equivalent value but of less weight/bulk should the winning team be based

Why is the release time for the final task 16:00?

- This is tricky. We have tried 9am (2016 – 2018 inclusive) but this favours students whose schools are happy for them to go off timetable for part of the day. On the other hand, 4pm makes life difficult for other students, who may be travelling at that time. Support for each of these start times has been about equal amongst participants.

- Our solution is to make the final task harder to complete quickly, so that the winning time lies between two days and seven days. This is a delicate balancing act.

- We have considered dropping the race-to-the-line element of the final task, and having a more qualitative task for those scoring fully on the final question. We have decided to shelve this alternative for now.

What is the format of the final task?

- The format of this has varied across the years. The most successful elements seem to be the unlocking of clues, the use of codes, and the excitement of working against the clock.

- We have made underestimated how swiftly a resourceful and well-organised student team can work. We believed the final task in each case would take a matter of days to complete, and yet it proved doable each time for the winning team in a matter of hours! We plan to rectify this for the 2020 competition.

Can technology be used to answer Ritangle questions?

- Yes! We encourage the use of technology, spreadsheets, graphing software and programming can be particularly useful. Any use of online resources/search engines is also permitted.

- When we explore maths for ourselves these days, we may have a spreadsheet, a graphing program, a CAS program and a programming environment open simultaneously, and we want Ritangle to have that flavour. We think it is reasonable to expect students to be able to use a graphing program and a spreadsheet. Programming knowledge will not, however, be required for the final question.

- On the other hand, we accept that when working against the clock, while working on the final task methods using technology may have outpaced more traditional methods. We will bear this in mind when constructing future tasks.

What are the rules?

- An Information and Rules document will be published on the Ritangle webpage when registration for the competition opens. One of the most important rules is about not sharing answers.

  Please don't share your answers outside your team, online or anywhere else; others are having fun finding them! **Please note**: anyone found leaking the answers or clues inappropriately and anyone found making intentional use of such leaks will be barred from receiving the prize.

What if I can't answer a question?

- It is possible to solve the final question even if you don't have correct answers to all of the first 24 questions. If a question is found to be difficult, hints may be given. Any hints will be made available via Twitter and the Ritangle webpage.

Can students form a team with friends from a different school?

- No, all students in a team must attend the same school/college.

What information is required to register a team?

- School/college name
- Team Captain Name
- Team Captain E-mail Address
- Nominating Teacher Name
- Nominating Teacher E-mail address

How do I register?

- One student from the team must register the team. The team should agree who this will be to ensure there is only one entry per team. This student is the Team Captain. Every student can only be in one team, including the Team Captain. Registration is via the Ritangle webpage and a team must be registered in order to submit answers to the preliminary round and to the main completion.

Can I be in more than one team?

- No, each student can only be in one team, including the Team Captain.

Can a teacher be a Nominated Teacher for more than one team?

- Yes, there is no limit to the number of teams a teacher can be a Nominated Teacher for.

Should I keep my working out/ answers to the questions throughout the competition?

- Yes! Judges may request to see evidence of working out. Answers to questions are also required at a later stage in the competition. We recommend that each team nominates a member as Team Archivist to keep the team's working for the questions as they are attempted.

As a teacher, can I help my students with the competition?

- We ask that teachers do not help students directly, but any help with relevant theory is fine.

How is the winner decided?

- **Please note the following is subject to the team providing sufficient evidence (in the opinion of the judges) of their working.**

  Answers for the final question will be accepted up until the date published in the Information and Rules document.

  1. the team scoring most highly on the final question will be declared the winner, subject to their working satisfying the judges.

  2. if there is more than one team with both the highest score on the final question, the winner will be chosen, from such teams, as the team that submitted those answers first, subject to their working satisfying the judges.

  3. In the event that the above does not determine a winner, the winning team will be chosen at the discretion of the judges based on the answers submitted.

How will I know if my team has won?

- **Please note the following is subject to the team providing sufficient evidence (in the opinion of the judges) of their working.**
  If there is a possibility a team has won, the judges will contact the Nominating Teacher to verify details of the team and their participation. If the answer is satisfactory to the judges then that team will be the winner. The decision of the judges is final. No discussion will be entered into regarding the decision over who is the winner. The winning team and the answers will be announced on the Ritangle webpage and on the Integral Twitter page.

Any further questions?

- Competitors or teachers can email: ritangle@mei.org.uk for any queries you may have.

- Also, if you have further feedback on Ritangle, do contact us at any time: ritangle@mei.org.uk