

# UK University Integration Bee Participant Guide Round 2 2022

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## Introduction

Congratulations for making it to Round 2! I hope you have fun taking part :) It'll largely be the same as last year for those who took part last year but with the Shuttle replaced by Relay.

## How the competition will work

Round 2 is split into 3 rounds; a group round, a crossnumber round and a relay round - for those of you who did [UKMT's Senior Team Maths Challenge](#) that would be familiar. Last year's Round 2 is similar except the shuttle has been replaced by a relay. The way each of these works is as follows:

### Group Round: 1 hour

This works the same as Round 1 but on a smaller scale. Each team will be given 10 problems and an hour to try get as many solutions together as possible - the problems vary in difficulty but it'll be in difficulty order. 5 marks will be awarded for each problem.

### Crossnumber Round: 40 minutes

In this round, the aim is to fill as many squares on a crossword correctly with the answers as integers instead of words. The team splits into two - here that would be one pair and one on their own - one half gets across clues and the other half gets down clues. Some of these you can do straight away, some of them you'll need to fill in numbers from other clues and some of them depend explicitly on other clues - both across and down ones. The clues won't necessarily be integrals but will involve other math.

No communication is allowed between the two halves of the team other than asking them to do a certain question e.g you might be working on 8 DOWN which requires 1 ACROSS - you can ask the other half to work on 1 ACROSS. Your answers will be checked as you go, 1 mark for each correct digit, no marks for an incorrect digit and in either case, the correct digit will be placed on the grid for both teams to see. It's best to enter one digit at a time in case you mess up instead of checking the whole number at once. Some clues will be constructed so that particular digits can be worked out before the others. One half will be designed to be less dependent on the other and easier - since we have teams of three, choose your one to do this.

### Relay Round: 45 minutes

Here there will be 20 problems to attempt. They'll be given to the entire team to solve, one at a time. A correct answer will be given three marks and any subsequent attempt will be worth one mark. If you can't solve it you can skip it, whether you solve it or skip it, you'll move onto the next question until you finish them. You cannot go back to any previous question, even if you finish early. Should you get 15 or more questions, your  $\beta$  is upgraded to an  $\alpha$ , giving you 10 more marks overall, bringing the max to 70 possible.