



# UKMT Team Maths Challenge 2017

## General information for teachers

### Eligibility

The Team Challenge is a competition designed for teams of four pupils in:

- ✓ Y8 & Y9 (England and Wales)
- ✓ S1 & S2 (Scotland)
- ✓ Y9 & Y10 (Northern Ireland)

*with no more than two pupils from the upper age group.*

### How the competition works

#### Team Selection and Preparation

This is not an official stage of the competition and you do not have to run a practice event in your school; however, most schools find the material provided from past competitions useful for selecting a team of four and for additional resources. Materials from previous years are available to download from the Team Maths Challenge section of the UKMT website ([www.tmc.ukmt.org.uk](http://www.tmc.ukmt.org.uk)).

The **Regional Finals** will be held across the UK between February and April 2017.

Each event will involve the following rounds:

1. Group Round
2. Crossnumber
3. Shuttle
4. Relay

The **National Final** will be held in London on Monday 19 June 2017.

The rounds differ slightly from those in the Regional Finals and are as follows:

1. Group 'Circus' (this is similar to the regional Group Round with the addition of practical materials for use in solving certain questions)
2. Crossnumber
3. Shuttle
4. Relay

In addition, all schools take part in the Poster Competition which is judged and scored separately from the other rounds.

## How to enter

Information and entry forms for the 2017 competition will be posted to Team Maths Challenge contacts at schools (and made available on the UKMT website) in early October 2016 once the majority of Regional Final dates have been confirmed by venues. Schools should then check the listing of venues, dates and availability in the Team Maths Challenge section of the UKMT website, which will be updated as places at venues are filled. The deadline for entries will be **Friday 2 December 2016**. Depending on availability at venues, we may be able to accept late entries - please check website for updates.

## Explanation of rounds

**Group Round** (*45 minutes, 6 points per fully correct answer*)

- The contestants are given a set of 10 questions, which they should divide up among themselves so that they can answer, individually or in pairs, as many as possible in the allotted time.
- A team captain should be made responsible for the completion of the response sheet to be handed in for marking at the end of the round.

**Crossnumber** (*up to 45 minutes, 1 point per correct digit*)

- Teams are divided into pairs, with one pair given a grid with the across clues and one pair given a grid with the down clues. There is also a third grid, kept by the teacher.
- Each pair answers as many questions as possible (on their own grid), showing their answers to the supervising teacher as they go. As soon as he/she is given an answer, the teacher writes it on his/her grid and either confirms or corrects it, showing the correct answer to both pairs to make sure that each has the most up-to-date version of the grid.
- The sole communication permitted between the two pairs is to request, via the supervising teacher, for a particular clue to be solved by the other pair.

**Shuttle** (*4 shuttles of 8 minutes each, 3 points per answer if correct on first attempt or else 1 point if correct on a subsequent attempt; in addition, a bonus of 3 points to any teams which present a correct set of answers before the 6-minute whistle*)

- Teams are divided into pairs. For the first shuttle, Pair A receives Questions 1 and 3 (along with the response sheet on which to write the answers) and Pair B receives Questions 2 and 4. This is switched for the second shuttle (and so on).
- Question 1 can be solved independently of the others, but the answer to each of the subsequent questions is dependent on the previous answer, referred to as *T* in Questions 2, 3 and 4 (which begin "*T is the number that you will receive.*").
- Once they have calculated the solution to Question 1 and written it on the response sheet, Pair A passes the sheet to Pair B. This continues with Pair B passing the answer to Question 2 back to Pair A and so on. Apart from passing the response back and forth, no communication is allowed between the two pairs.
- Once all questions have been answered, Pair B hands the response sheet to the supervising teacher to mark, starting from Question 1. If all answers are correct, the team has successfully completed the round. At the first incorrect answer, the

teacher stops marking and passes the sheet back to the relevant pair to reattempt the question. There is no limit on the number of further attempts.

- There will be a whistle after 6 minutes. Any team which hands in their response sheet with four correct answers before this whistle will earn a bonus of 3 marks.
- A final whistle will be blown after 8 minutes. Teams must then stop working and hand in their response sheet for marking.
- Students can work on any of their given questions at any time and the questions have been designed so that pairs can carry out preparatory work before receiving the answer to the previous question.
- If a pair knows that the answer they have received must be wrong, they can pass it back to the other pair with this answer circled.
- If a pair realises (*before* the completed response sheet is handed to the teacher for marking) that they have passed on an incorrect answer, they can ask the teacher to retrieve the response sheet from the other pair so that they can change their answer.

**Relay** (*up to 45 minutes, 2 points per correct question*)

- The aim here is to have a speed competition with teams working in pairs to answer alternate questions.
- Each team is divided into two pairs, with each pair seated at a different desk away from the other pair and the supervising teacher.
- One member of Pair A collects question A1 from their supervising teacher and returns to his/her partner to answer the question together.
- When the pair is certain that they have answered the question, the runner returns to the front to submit their answer to the teacher. If it is correct, the runner receives question B1 to give to the other pair (Pair B) from their team. If it is incorrect, Pair A then has a second (and final) go at answering the question, then the runner returns to the front to resubmit their answer and receive question B1 to deliver to Pair B.
- The runner then returns, empty handed, to his/her partner.
- Pair B answers question B1 and a runner from this pair brings the answer to the front, as above, then takes question A2 to Pair A. Pair A answers question A2, their runner returns it to the front and collects question B2 for the other pair, and so on until all questions are answered or time runs out. Thus the A pairs answer only A questions and the B pairs answer only B questions.
- Only one pair from a team should be working on a question at any time and each pair must work independently of the other.

**Group Circus** (*National Final only, 50 minutes*)

Teams move around a number of stations to tackle a variety of activities, some of which involve practical materials.

**Poster Competition** (*National Final only, 50 minutes*)

Prior to the event, teams are sent information about a topic for research and investigation, and then on the day of the competition they make a poster incorporating materials they have prepared while addressing related questions given out on the day.

**For any further information about the Team Maths Challenge please call 0113 343 2339, or email: [enquiry@ukmt.org.uk](mailto:enquiry@ukmt.org.uk)**