Below you will find the answer keys to the (set A and set B) Pre-RMO 2013 examination papers for the Mumbai region. There are three questions (in each set) which have been withdrawn since their formulation left some ambiguity in interpretation. We give here a brief explanation about them.

- Question 10 of set A (which is the same as Question 7 of set B) is withdrawn since any number could be an answer to this question. The question in its original formulation had the additional condition that the three numbers given to Carol are natural numbers, but this condition is missing in the final version that appeared in the paper, and hence the ambiguity.

- Question 14 of set A (which is the same as Question 11 of set B) is withdrawn since there is a possible confusion about whether $m = 1$ is a valid choice or not. The reason for this is the expression $1 + 2 + \cdots + m$ appearing in the question.

- Question 17 of set A (which is the same as Question 18 of set B) is withdrawn since there is an ambiguity about the diameter specified in the problem. The condition on X in the original formulation was that it lies on the diameter **of** S passing through the centre of S_2. But in its final version that appeared in the paper "of S" is missing and hence the amibiguity.

All the students are given full points for these three questions. Further, though a total of 300 students were to be selected for writing the RMO on December 1, 2013, the cutoffs were reduced so that more students are selected to write the RMO.

Answer keys – Set A

Ques. No.	Answer	Ques. No.	Answer
1	1	11	14
2	9	12	14
3	0	13	8
4	91	14	–
5	10	15	208
6	18	16	0
7	12	17	–
8	2	18	61
9	120	19	36
10	–	20	630

Answer keys – Set B

Ques. No.	Answer	Ques. No.	Answer
1	9	11	–
2	91	12	14
3	0	13	8
4	1	14	208
5	10	15	14
6	12	16	36
7	–	17	61
8	18	18	–
9	2	19	0
10	120	20	630