

## MCWC 2016 Challenge Task

You will get one problem looking like this:  $\sqrt[a]{n} \pm \sqrt[b]{n} \pm \sqrt[c]{n}$  where  $a$ ,  $b$  and  $c$  are integer numbers not larger than 10 and  $n$  is an integer number (for which the number of digits is not known beforehand).

Possible problems would be for example:

$$\sqrt[5]{12345} - \sqrt[3]{12345} + \sqrt[8]{12345}$$

$$\sqrt[10]{2121} - \sqrt[2]{2121} - \sqrt[6]{2121}$$

**Your task: Find as many correct digits of the solution as possible within 15 minutes.**

The term “correct digit” is defined in the same way as in the standard square root task. For example, take the second problem from above. The correct solution is something like  $-47.487705695968669\dots$

Each result between  $-52.48770569596866$  and  $-42.48770569596866$  will be counted as one correct digit.

Each result between  $-47.98770569596866$  and  $-46.98770569596866$  will be counted as two correct digits.

Each result between  $-47.53770569596866$  and  $-47.43770569596866$  will be counted as three correct digits. etc.

Note that just writing  $-5$  would be counted as zero correct digits; you would have to make clear that the solution has two digits before the decimal point by writing  $-50$ .

**Scoring System:** For the first correct digit, you get one point. For the second correct digit you get two more points, for the third one three more points, etc. This means that if you get four digits correctly, you will earn  $1 + 2 + 3 + 4 = 10$  points.