**24 TIE - BREAKER**

Pre-Tiebreaker procedures:

* First, potentially placing tied test papers should compared, starting from question 10.
* If one paper gets question 10 and the other paper does not (blank or wrong), the first paper gets a higher placing.
* If a question cannot be broken with question 10, repeat the procedure for question 9, then 8, and so on.
* If two (or more) papers are identical, call those students for a tiebreaker.

Tiebreaker procedures:

* Do: Check that each student has a good pencil.
* Read: “On the other side of this paper are four numbers. Please write your name on the back of your slip, then do not touch it until I say go. You may use only the four basic functions and parentheses to create the number 24. The fastest correct answer gets the higher placing.” [If more than 2 students, add: “The next fastest correct answer will get the next highest placing.”] “You will have 90 seconds. Please circle your answer for creating 24, and raise your hand when you are done. Other students may continue working if one student has submitted an answer. Are there any questions?”
* Do: Say start, start a stopwatch. Be sure to write times on each slip of paper.

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| **1, 3, 3, 8, 8** |  |
| **7, 8, 8, 13** |  |
| **4, 4, 10, 10** |  |

**24 TIE – BREAKER ANSWERS**

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| --- | --- |
| **1, 3, 3, 8, 8** | 1 / [8(3 – 8/3)] |
| **7, 8, 8, 13** | (13 + 8)/7 • 8 |
| **4, 4, 10, 10** | (10 • 10 – 4)/4 |