## Brass Rat 2020 Puzzle Hunt Clues

Thank you for participating in the very first Brass Rat Puzzle Hunt! We're excited to give everyone a few clues to help you along the puzzle hunt. These clues are substantial enough to set you on the right track for solving each of the puzzles, so if you were stuck before, you will probably get unstuck! As always, please email sadhika@mit.edu with any questions.

Please keep in mind that you need to send an entire solve summary (leave out the gnarly details but put enough in to make your process reproducible) for each puzzle in order to win the ring. We reserve the right to request further details on your solving process for each puzzle, so please document as much as you can (or at least, be able to reproduce your thinking).

## Puzzle 1: Maybe it's not so bad for the blind to lead

What are blind people (usually) better at deciphering than those who have sight? What kinds of patterns involve dots split into these domino-like shapes?

Remember, for this puzzle, you can either go to the physical location indicated by the answer or send Sadhika an email with the specific place you would go.

## Puzzle 2: . 5 to hell? .5 to heaven?

This puzzle is tricky, because the answer doesn't form a word or something recognizable. If you have some guesses, remember you can always try a guess (e.g., "guessword") by typing in http://brassrat2020.mit.edu/guessword.html and seeing if the resulting page is valid. As part of releasing these clues, I've added a few pages for close guesses that tell you you're on the right track but need to work just a bit more to get there.

You need to apply the title of this puzzle twice in order to solve the puzzle fully. The first time may seem rather intuitive (". 5 to X" also means "halfway to X"). The second time, you need to consider why it is that I chose to put numbers in the title instead of simply saying "halfway." These phrases have special significance on a landmark near MIT, and quantifying that significance with a numerical value is important. Then, you can use that numerical value along with the result of the first part and the notion of "halfway" to get the answer.

## Puzzle 3: Who said addition needs a "+"?

To get mathematical for a second, each arithmetic operation ( $+,-, *, /$ ) can be thought of as a mapping or function that takes two numbers and gives you a third (e.g., $+(2,3)=5$ ). Clearly, the numbers in these equations aren't what they usually stand for. Figuring out what they stand for gives you the answer to this puzzle...given such limited information there's really only a few rules that dictate a correct mapping for the numbers. As for what to do with the answer...you may actually want to pull out your phone to help you out.

## Puzzle 4: how'd you get here?

The first half of this looks like a Sudoku, and the second half like a crossword. To solve, you'll need to use these two notions interchangeably and determine the unknowns. As the title suggests, you'll need to think about how you did the previous puzzle...as well as what number out of 1-9 (your Sudoku options) has a property that can be helpful in constructing crosswords.

## Puzzle 5: scrambled

Astronomy is all Greek to me :)

## Puzzle 6: chemistry? yrtsimehc?

Subscripts and letters can intuitively be interchanged, and from there, some Googling may help you if you're not a chemistry buff. You should be able to populate the table with compounds, as Fibonacci bragged in the blurb. The answer will be real English words!

