

## WINNER! - Logic Puzzle of the Year

# Bar Tab

(Solver's note: *Part 1: The Menu* and *Part 2: The Recipes* may be solved independently, in case you want to divide labor.)

### ***PART 1: THE MENU***

At the Drunken Sphinx, there are eight drinks on the menu, each of which costs a whole number of dollars and cents.

- An order of four Freaky Tikis costs exactly seven cents more than three of another drink on the menu, and exactly seventeen cents less than three of yet another drink on the menu.
- At \$5.07, the Big Kahuna is the most expensive drink on the menu.
- The difference between the prices of the Tropic Delight and the (more expensive) Kickback is double the difference between the prices of the Tasty Toucan and the (more expensive) Maui Kazowie.
- The cost of five Maui Kazowies is five cents less than  $N$  dollars, where  $N$  is an odd perfect square (the product of a whole number times itself.) The Maui Kazowie costs more than the Tropic Delight.
- A Tropic Delight costs the same as three Bermuda Shooters; a Cool Breeze costs the same as five Bermuda Shooters.
- The Bermuda Shooter costs more than a dollar.
- The Kickback costs fourteen cents more than the Tasty Toucan.

## ***PART 2: THE RECIPES***

Each drink contains exactly four ounces of juice, in some combination of orange, cranberry, lime, and pineapple. No recipe uses the same juice combination, and each recipe uses a whole number of ounces of each juice.

- Exactly four drinks contain cranberry juice, and each contains a different amount. The same is true for pineapple juice.
- No type of juice is contained in both the Bermuda Shooter and the Kickback. No type of juice is contained in both the Big Kahuna and the Freaky Tiki.
- The Kickback contains more orange juice than the Big Kahuna, which contains more orange juice than the Cool Breeze.
- The Tasty Toucan and the Cool Breeze each only contain one type of juice. No drink contains exactly three types of juice.
- The Tropic Delight contains more lime juice than the Kickback—twice as much, in fact—and the Kickback contains twice as much lime juice as the Freaky Tiki.
- The Big Kahuna contains more pineapple juice than the Cool Breeze.
- The Maui Kazowie contains equal amounts of orange, pineapple, and cranberry juice.

### ***PART 3: THE NIGHT OUT***

Diana, Melissa, John, and Mike spent the evening at the Drunken Sphinx, which is located in a tiny foreign land where there is no sales tax and tipping is illegal.

- Each customer ordered different drinks (at least two) until they found one they decided was their favorite. Then each customer ordered their favorite drink exactly once more, except for John, who ordered his favorite drink twice more. No two customers had the same favorite drink.
- No one ordered the most expensive drink on the menu or the least expensive drink on the menu.
- Melissa had exactly six ounces of pineapple juice.
- Diana had exactly eleven ounces of one juice. John had exactly eleven ounces of a different juice than Diana.
- Mike ordered fewer drinks than anyone else did, and he ordered the cheapest drink containing orange juice at least once.
- No customer spent more than \$21.00.
- Everyone ordered Mike's favorite drink except John. One particular drink was ordered by everyone except Mike, but it was no one's favorite.

At the end of the night, a waiter delivered the bar tab, which listed the amount of money each customer owed in order from the least to the most.