







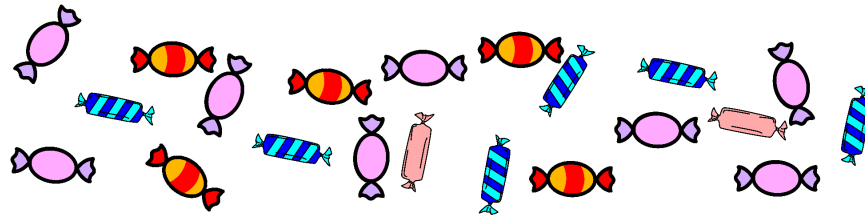
## Problem of the Week

### Problem B

#### A Jarring Thought

Chan and Mira are working at their school fun fair. They are responsible for filling a jar with candy, so people can guess how many candies are in the jar. They buy 10 bags of candy. Each bag contains four types of candy, each with a different flavour: orange () , grape () , blueberry () , and watermelon () .

While they were filling the jar one of the bags broke open and spilled on the floor. The following is a picture of the spilled candy.



Chan and Mira enjoy a challenge, so they designed the following questions to be answered by their classmates.

- Each bag has the same distribution of candy as the bag that was spilled. Once all of the bags have been entered into the jar, what is the total number of each type of candy in the jar, and the total number of candies?
- After thoroughly mixing the candies, you stick your hand in the jar and randomly pull out one candy. What is the theoretical probability that it will be a blueberry candy?
- Chan found a bag of candy with the same number of candies as the other bags. However, this bag only had grape candies. They added these candies to the jar and the candies are thoroughly mixed. If you now randomly remove one candy from the jar, what is the theoretical probability that it will be a grape candy?