



## Problem of the Week

### Problem E

### Picture This

Eight people, Alex, Braiden, Christine, Gary, Henry, Mary, Sam, and Zachary are lining up in a row for a picture. Due to the dynamics of the people involved, there are certain restrictions in the way the people will line up. Anyone with a name that ends in 'y' will not stand next to anyone else with a name that ends in 'y'. (Notice that four names end in a 'y': Gary, Henry, Mary, and Zachary.) Also the twins, Alex and Gary, will not stand beside each other.

If the photographer randomly organizes the people, what is the probability that she arranges the people in a valid order?

The diagram below illustrates one possible valid arrangement of the people.

