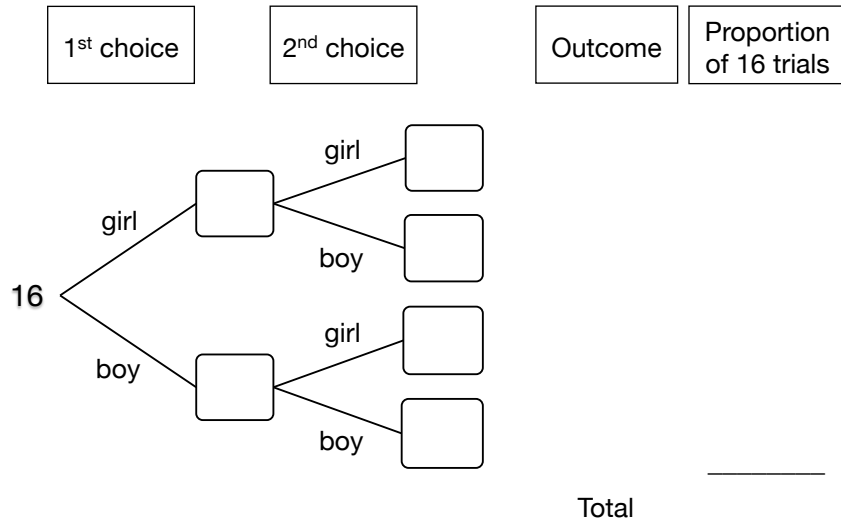
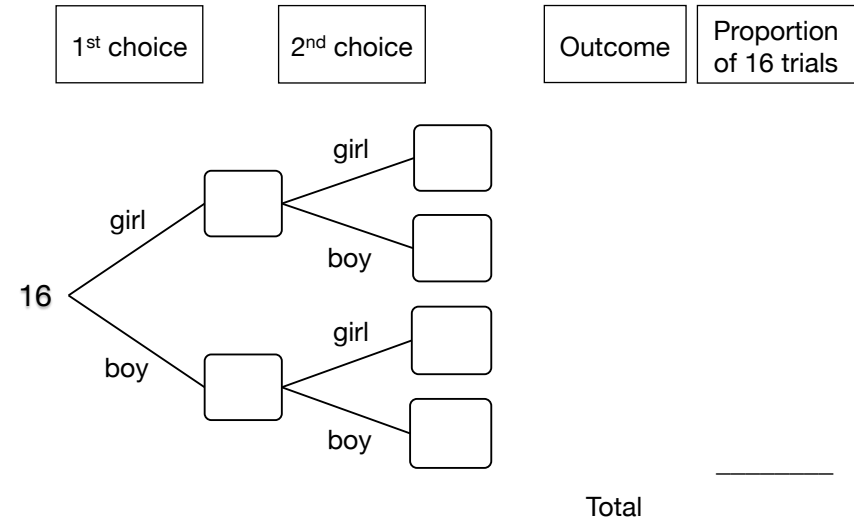


Enter your results onto the appropriate frequency tree, and then onto the table below.

### Experimental results - Ingrid's suggestion



### Experimental results - Paolo's suggestion



Suggestion	girl/girl	girl/boy	boy/girl	boy/boy	Total	Alesha	Jack
Lucy's							
Ingrid's							
Paolo's							

Which method worked out best for Alesha? .....

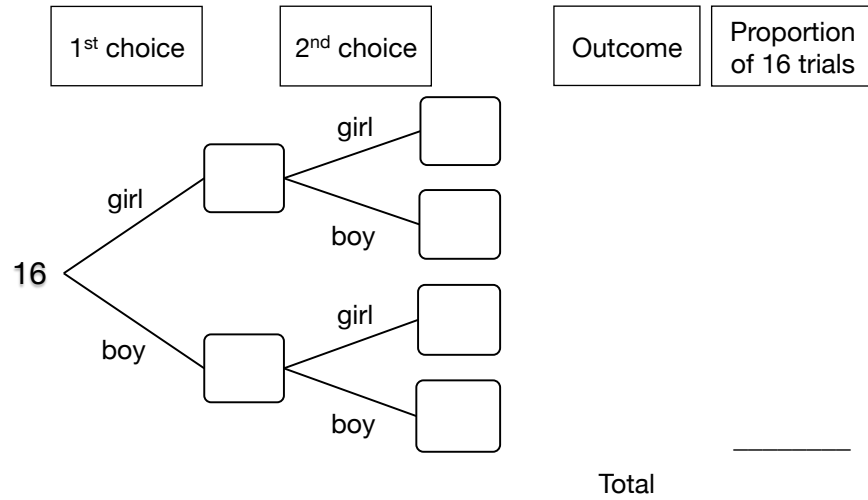
Which method worked out best for Jack? .....

So far, which do you think is fairest? .....

So far, which do you think is most representative of the group?.....

How do your results compare with what we would **expect**? Complete the frequency and 2-way table for Ingrid's method, and the 2-way table for Lucy's.

**Ingrid's suggestion**



		2 <sup>nd</sup> choice		Total
		G	B	
1 <sup>st</sup> choice	G			
	B			
Total				

**Lucy's suggestion**

		2 <sup>nd</sup> choice		Total
		G	B	
1 <sup>st</sup> choice	G			
	B			
Total				

Why do you suppose there is no frequency tree or 2-way table for the expected results in 16 trials for Paolo's suggestion? Why would completing them be problematic? Use this space to try either or both if you are not sure.

The chance of a girl or boy being chosen changes after the first choice in Paolo's method. Why?

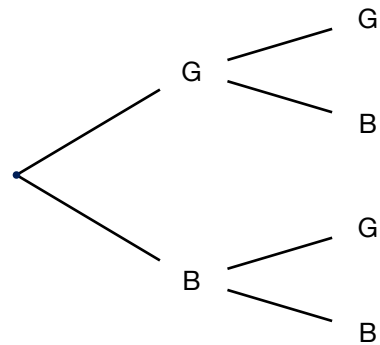
Although this makes it more difficult to put numbers on a frequency tree, since they would not be whole numbers at the second choice, this is not a problem for a probability tree.

Complete the probability trees for Ingrid's and Paolo's methods, putting probabilities of each event on the branch segments, and then calculating the probability of each outcome occurring. Remember to check that the total probability of all four outcomes is 1.

**Ingrid's suggestion**

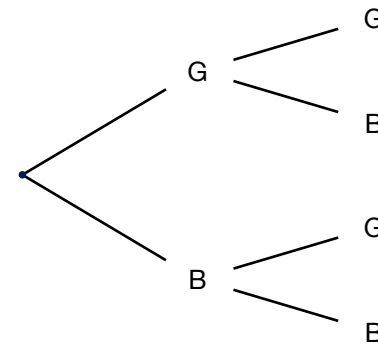
Outcome

Calculation

**Paolo's suggestion**

Outcome

Calculation



1. For the three suggested methods, what is the probability that any girl and any boy get a prize (ie. the result is GB or BG)?
2. For the three suggested methods, what is the probability that the same person will get both prizes?
3. Draw similar probability trees to find the probability of Alesha or Jack getting a prize. (Hint: the branch segments should be Alesha/Jack and not Alesha/Jack).
4. Which method of the three do you prefer? Why?
5. Are there any which you definitely would not choose? Why not?
6. Can you think of a better method of choosing who should have the prizes?
7. How is your method better?
8. Does it have any disadvantages?