Game Show

ACTIVITY

Liang has reached the final round in a game show.

The host says:

I'll give you a 50-50 chance to win the grand prize.

Here are 6 yellow beans and 6 red beans. Put them in these 3 bowls. You can put as few or as many as you wish in each.

You turn your back while I rearrange the bowls and cover them with a cloth.

You turn around again, choose a bowl, then put your hand under the cloth and take a bean.

If it is red, I keep the prizes. If it is yellow, they are all yours!

1. Why did the game show host say Liang had a 50-50 chance?

2. Write down at least 5 different ways she could put the beans in the bowls.

3. a. What is the best possible way for her to arrange the beans?
   b. If the beans are arranged in this way, what is the probability of Liang taking a yellow bean? Explain. A tree diagram may help.