

Set E2 ★ Independent Worksheet 1



INDEPENDENT WORKSHEET

Charlie's Marbles

Charlie put 4 marbles in a bag. One of the marbles was green, one was yellow, one was blue, and one was red. He shook the bag to mix up the marbles.

Then he put 4 more marbles in another bag. One of the marbles was green, one was yellow, one was blue, and one was red. He shook the bag to mix up the marbles.

When the bags were ready, Charlie said to his friend, Sara, "I am going to pull a marble out of both bags at the same time without looking. What are my chances of getting a red marble out of the first bag and a blue marble out of the second bag?"

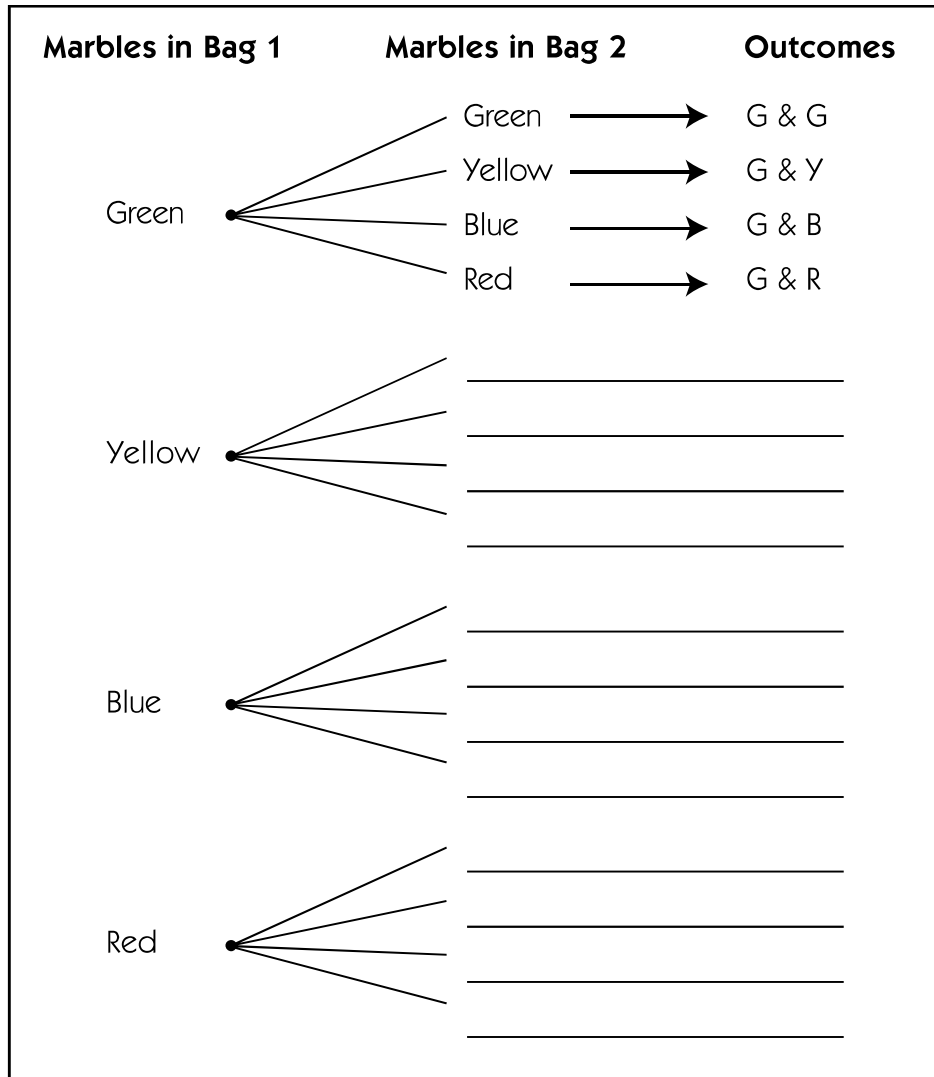
Sara said, "I think your chances of getting a red marble out of the first bag and a blue marble out of the second bag are 1 in 16."

1 Do you agree with Sara? Why or why not?

2 Complete the chart below to show all the possible combinations Charlie could get.

| | | Marbles in Bag 2 | | | |
|------------------|--------|------------------|--------|------|-----|
| | | Green | Yellow | Blue | Red |
| Marbles in Bag 1 | Green | GG | | | |
| | Yellow | | | YB | |
| | Blue | | | | |
| | Red | | RY | | |

3 Complete the tree diagram below to show all the possible combinations Charlie could get.



4 What are Charlie's chances of getting a red marble out of the first bag and a blue marble out of the second bag if he pulls one marble out of each bag without looking?



CHALLENGE

5 What are Charlie's chances of getting two marbles the same color if he pulls one marble out of each bag without looking? Explain your answer.