

Lesson 10-3

Example 1

A family has two children. Make a tree diagram of the sample space. Assuming that each child is equally likely to be a girl or a boy, how many possible outcomes (family arrangements) are there?

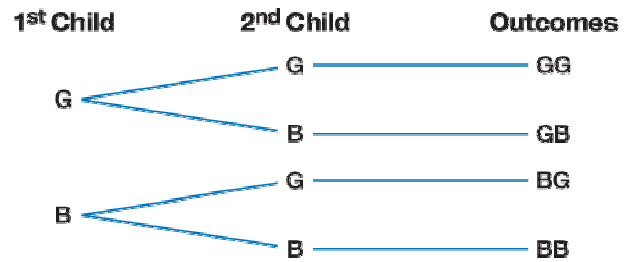
Solution

For each child, there are two possibilities.

1st child → girl or boy

2nd child → girl or boy

The tree diagram displays the sample space. There are four possible outcomes.

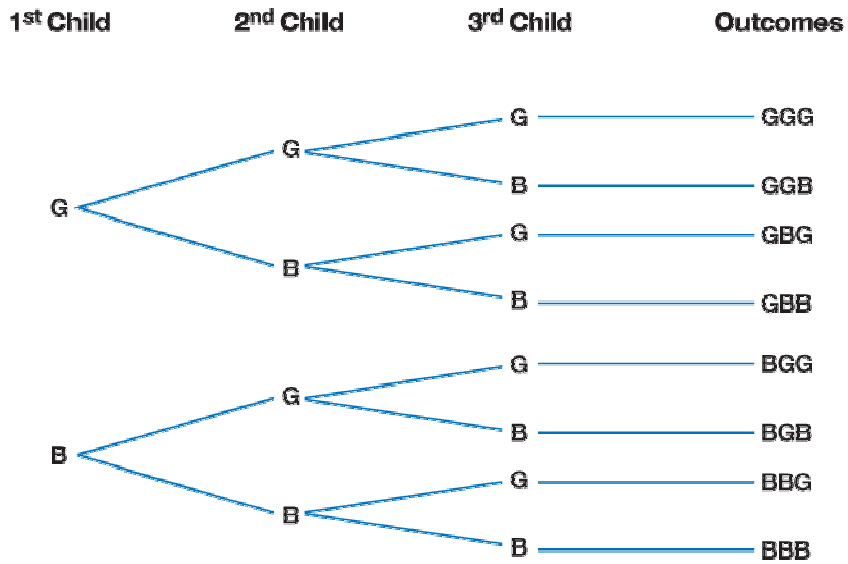


Example 2

A family has three children. Find $P(\text{no girls})$.

Solution

Made a tree diagram to picture the sample space.



There are 8 possible outcomes.
Only 1 of the outcomes contains no girls: BBB.

$$\text{So, } P(\text{no girls}) = \frac{1}{8}$$