(two children) I have two children. At least one of them is a girl. What is the probability that the other one is also a girl?

After trying the question, scroll down to the solution.
Let the genders of my two children be binary variables $c$ and $d$, and let girl be 1 and boy be 0. We say that at least one of them is a girl this way: $c \lor d$. But a binary expression may not be a distribution, so we divide by the sum to make a distribution.

$$\frac{(c \lor d)}{(\Sigma c, d \cdot c \lor d)} \quad \text{do the sum}$$

$$= \frac{(a \lor b)}{3}$$

Now we want to ask if both my children are girls; that's $c \land d$. So we put primes on the given information and compose it with the question.

$$\frac{(c' \lor d')}{3 \cdot c \land d} \quad \text{replace}$$

$$= \Sigma c'', d'' \cdot (c'' \lor d'') / 3 \times (c'' \land d'') \quad \text{do the sum}$$

$$= 1/3$$

The probability that my other child is also a girl is $1/3$. 