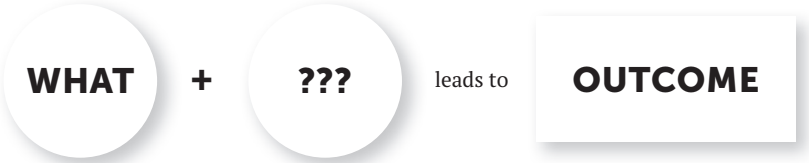
within the solar system, we can predict where a planet will be at a certain time. The calculations to support this prediction are very complicated, but in the end reasoning deductively toward a prediction is not problematic. With our knowledge of the elements in the situation and the pattern of their relationships (as defined by the laws of gravity), we know enough to safely deduce the outcome. Our forecast can be verified by observations, confirming that we have considered all the players in the situation correctly and have a sound grasp of the pattern of relationships through which the sun and the planets in the solar system interact. Of all the reasoning patterns we humans have at our disposal, deduction is the only one that is rock-solid. In terms of our simple equation, the starting position for deductive thinking looks like this:

Induction—discovering patterns

Matters begin to look slightly precarious in the next reasoning pattern, induction.



At the start of the reasoning process, we again know the "elements" in the situation, and—if we take the planets as an example—we know the outcome of