# THE GREAT GAME x

## TREASURE HUNTS x

**1. THE POLE-CLIMBING SLOTH**
A slippery sloth climbs six feet up a utility pole during the day, then slides back down five feet during the night. If the pole is 30 feet high and the sloth starts from the ground (zero feet), how many days does it take the sloth to reach the top of the pole?
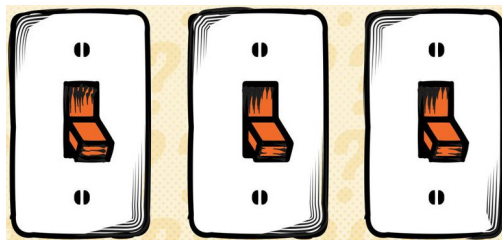
**2. THE NUMBER ROW**
The numbers one through 10, below, are listed in an order. What is the rule that causes them to be in this order?

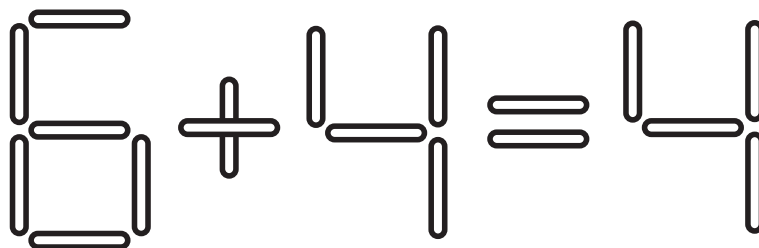**8 5 4 9 1 7 6 10 3 2**

**3. SOLVE THIS MYSTERY**
There is a lightbulb inside a closet. The door is closed, and you cannot see if the light is on or off through the door. However, you know the light is off to start. Outside of the closet, there are three light switches. One of the switches controls the lightbulb in the closet. You can flip the switches however you want, but once you open the door, you can no longer touch the switches.

How do you figure out without a doubt which switch controls the light?



**4. MATHS EQUATION**
Move just one stick to fix the equation:



**5. MAGIC BELT**
A magic wish-granting rectangular belt always shrinks to 1/2 its length and 1/3 its width whenever its owner makes a wish. After three wishes, the surface area of the belt's front side was 4 cm2.
What was the original length, if the original width was 9 cm?

**6. RIDDLE**
What object has keys that open no locks,
space but no room,
and you can enter but not go in?

1. 25 days. The math here boils down to a net gain of one foot per day, along with a threshold (24 feet at the beginning of a day) that must be attained so that the sloth can get to the 30-foot mark within a given day. After 24 days and 24 nights, the sloth is 24 feet up. On that 25th day, the sloth scrambles up six feet, attaining the 30-foot top of the pole.
2. The numbers are ordered alphabetically, based on their English spelling: eight, five, four, nine, one, seven, six, ten, three, two.
3. Flip switch number 1 and wait a few minutes. Flip switch number 1 back to its original position, and then immediately flip switch number 2. Open the door. If the light is on, then switch number 2 controls it. If the light is off, then go and feel the bulb with your hand. If the bulb is hot, the switch number 1 controls it, and if the bulb is cold, then switch number 3, the one you did not touch, controls it.
4. 5 + 4 = 9, 8 - 4 = 4, 0 + 4 = 4
5. The original length of belt was 96 cm.
6. A keyboard.