Suggested Answers for the Logic Puzzles

**Puzzle 1: Light in the Upstairs Room**

Hint 1: Ask what happens to a light bulb when it’s turned on (e.g. it gets warm).
Hint 2: The answer has two parts: a few actions and three ‘if’ sentences.

Answer: Turn on switch A and wait 5 minutes. Turn off A. Turn on B switch. Go into the room. If the light is on, it is connected to B. If the light is off but the bulb is warm, it is connected to A. If the light is off and the bulb is not hot, it is connected to C.

**Puzzle 2: Monkey in the Well**

Hint: The answer is less than 30 days.

Answer: 28 days. After 27 days and 27 nights, the monkey is 27m high. On the morning of the 28th day, the monkey climbs up 3m so it reaches 30m, which means it can get out of the well.

**Puzzle 3: Nine Marbles**

Hint: Make three groups of marbles.

Answer: Divide marbles into 3 groups - A, B, C. Each group has 3 marbles. Place A on one tray and B on the other. If the scale doesn’t balance, you have found the group with a heavy marble. If the scales balance, group C has the heavy marble. Remove marbles.

From the heavy group, place one marble on each tray. If the scales balance, the extra marble is heavy. If scales don’t balance, you have found the heavy marble.

**Puzzle 4: Two Buckets**

Hint: Fill the 5-liter bucket first.

Answer: Fill the 5-liter bucket. Pour water from the 5-liter bucket into the 3-liter bucket. Now there are 2 liters of water in the 5-liter bucket and 3 liters of water in the 3-liter bucket.

Empty the 3-liter bucket. Pour the 2 liters from the 5-liter bucket into the 3-liter bucket. Now the 5-liter bucket is empty.

Fill the 5-liter bucket. Pour water into the 3-liter bucket until full; you should be able to pour exactly 1 liter of water. You now have 4 liters of water in the 5-liter bucket.