Mental Exercise

By David Beagan

Pecking Chicks

In a barnyard one hundred chicks are sitting in a circle. All at the same time, each chick randomly pecks the chick either to its right or to its left. What is the expected number of unpecked chicks?

(The expected number is how many unpecked there would be on average in the long run if this situation were repeated many, many times.).

Simple Addition

Substitute the same digit for each letter in the following addition problem.

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   AAA
   BBB
 + CCC
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   BAAC
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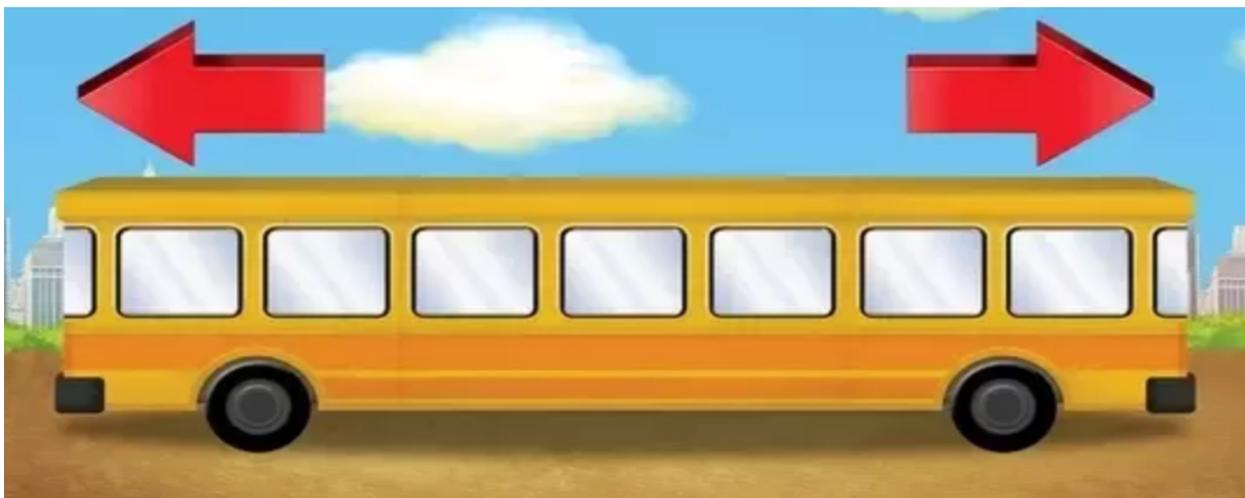
Smart Peasant

A peasant is convicted and gets the death penalty. The judge decrees that if his last words are a lie, he must die by hanging. If his last words are truth then he is to be beheaded. The peasant speaks and everyone is surprised that the judge cannot determine his penalty – and so is set free. What could the peasant have said?

Circle Triangle

Choose three points on a circle at random and connect them to form a triangle. What is the probability that the center of the circle is contained in that triangle?

Left or Right

See this Michigan school bus? It is hard to tell, is it going to the right or the left?

Answers

Pecking Chicks

If you look at this from the point of view of an individual chick, it has a 50% chance of getting pecked by the chick to its left and a 50% chance of getting pecked by the chick to its right

Simple Addition

```
  999
  111
+ 888
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 1998
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Smart Peasant

The peasant said: "I shall be hanged!"

Circle Triangle

The first chosen point and the point opposite it divide the circle into two sides. If the second two chosen points are on the same side (50%) then the circle's center is outside the triangle. If the second two chosen points are on opposite sides then the circle's center is inside the triangle (50%).

Left or Right

School kids pick up on this right away. The school bus has a door on the right side. In the picture, you don't see the door, so it must be on the other side. The bus is going to the left.