classmate
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Puzzles.

1. A shop sells 3 chocolates for 1₹ and gives one extra chocolate for exchange for 3 wrappers. How many chocolates can be bought for 10₹.

2. A person 'A' wants to send a secret message to his friend 'B' via a person 'C'. 'A' does not trust 'C'. So 'A' puts his message in a box with a lock, but 'A' should not send the key. How can 'A' send his message securely with 'C'?

3. A room with a door closed and 3 light bulbs inside. Outside are 3 switches, you can manipulate the switches as you want but once you open the door, can't change them. If you can open the door only once, identify each switch with respect to its bulb. Explain how?

4. An airplane flies non-stop from Mumbai to New York City. On the flight a pregnant lady gives birth to a healthy child just 30 minutes before the plane was about to land. Find if the airplanes weight was increased / decreased when it landed in NY as compared to weight in Mumbai.

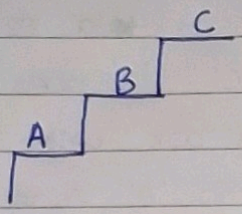
5. Four prisoners, all will be freed if atleast one of them correctly guessed the color of the hat on his head. Only one guess is allowed among all 4 prisoners.

There is a wall in between & all prisoners are facing the wall.

A | B C D

It is known that there are 2 black and 2 white hats. Which prisoner will make the correct guess?

6. Given the following arrangement, one prisoner among the three has to make a correct guess for the colour of hat on his head, given that there are 3 black and 2 white hats. Which prisoner can make the correct guess & how?



7. 100 prisoners are standing on stairs in a queue facing in one direction. Each prisoner is wearing either a black or red hat. A prisoner can see hats of all prisoner in front of him in the queue but cannot see his own hats color.

The jailer asks color of each prisoners hat starting from the last prisoner in the queue. If a prisoner tells the correct color then he is saved, otherwise executed.

How many prisoners can be saved atmost & how?

Note: The above type of problem is solveable only for even number of prisoners.

8. 100 prisoners are present in a room. The jailer comes in with a bag of Red and Black hats. He first makes every prisoner close their eyes, then puts a hat on each of their head. The count of Red and Black hats is unknown.

Now one by one a prisoner has to walk out of that room, open his eyes and stand in a group formation of Red and Black hats. What strategy should be used to form the group?

9. Find the ages of daughters.

(i) Product of their ages is 36

(ii) The sum of their ages is equal to the house number

(iii) The oldest girl likes strawberry ice cream.

Note: The same puzzle could be asked for product of ages = 72.

10. Given two hourglasses of 4 minutes and 7 minutes, describe the process of measuring 9 minutes if possible.