
math22

Do you make unnecessary assumptions?

When you are trying to solve a problem, you are sometimes hindered because you import assumptions that are not part of the problem. Most of the following questions are easily solved once you rid yourself of unwarranted assumptions. Very few people can solve all of these problems in one sitting. Here is an example:

One night my uncle was reading an exciting book when his wife turned out the light. Even though the room was pitch dark he went right on reading. How could he do that?

Did you assume that the uncle was a sighted person? The uncle could keep reading because he was blind and was reading Braille.

1. A father and his son were in a car accident. The ambulance took both to the hospital where the father was found to be injured, but not seriously. However, the son needed surgery. After he was prepped for the operation, the surgeon came in, but said "I can't operate on him — he's my son!" How is this possible?
2. This morning one of my earrings fell into my coffee. Even though my cup was full the earring didn't get wet. How come?
3. Yesterday, my father was caught in the rain without a hat or umbrella. There was nothing over his head and his clothes got soaked. But not a hair on his head got wet? Why was that?
4. A lady did not have her driver's license with her. She failed to stop at a railroad crossing, then ignored a one-way traffic sign and traveled three blocks in the wrong direction down a one-way street. All this was observed by a policeman, yet he made no effort to arrest the lady. Why?
5. After spending many hours in a bar, a person who had left his car in a parking lot started to search for his vehicle. The car was pitch black, the parking lot lights were off, the street lights were off, the car lights were off, and there was no moon. Nevertheless, the person had no difficulty finding his car. Explain.
6. Whenever my aunt comes to visit me at the apartment she always gets off the elevator five floors too soon and walks up the rest of the way. Can you tell me why?
7. A man is found shot to death in the front seat of his car; a gun lies out of his reach in the back seat. All the windows are closed and the doors are locked; there are no bullet holes anywhere in the car. How could this have happened?
8. One very cold winter's day, Mrs. Smith looked through her front window and saw her 10 year old daughter clad only in shorts and a T-shirt. However, she did not find this alarming. Why?
9. A woman walked up to a man who was standing behind a counter and handed him a book. He looked at it and said "That'll be six dollars." She paid the man and walked out without the book. He saw her leave without it but did not call her back. How come?
10. An escaped convict was walking along a country road when he saw a cop car coming towards him. Before he ran into the woods, he ran 10 metres directly towards the approaching police car. Did he do this out of contempt for the police, or did he have a better reason?

11. A train left Edmonton the same time as a Honda Accord. The driver of the Honda was unaware that both front tires had slow leaks, and by the time the car arrived in Regina, both tires were completely flat. The driver did not change tires or have them repaired, but the car and train reached Regina at the same time.
12. A woman had two sons who were born on the same hour of the same day of the same year. But they were not twins, and they were not adopted. How could this be so?
13. Jim Johnson lives in a high-rise apartment building. He is plant supervisor at an iron foundry that is within walking distance of his apartment. Every morning at 0800 h, he walks down a flight of stairs, and when he arrives at his destination he settles back with a cup of coffee that he has picked up at Tim Horton's and begins to read the newspaper that he has purchased from the local news-stand. Halfway through the newspaper his eyelids close and he falls asleep for several hours. Nevertheless, at the end of the month he looks forward to a nice productivity raise. How does he get away with this?
14. Take 3 empty cups, and try to put eleven coins in them so that each cup holds an odd number of coins. All the coins must be used. Once you have solved this, try to put 10 coins in the same cups so that again each cup holds an odd number of coins and all coins are used. (Remember, Zero is an even number.)
15. There is a light in a storage room on the second floor of a building. On the ground floor are three light switches, exactly one of which controls the storage room light, which is a standard 100 watt bulb. By turning some or all of the switches on or off, it is possible to determine which switch controls the light by making two trips to the storage room. How?
Can you determine this by making just one trip to the storage room? Outside the storage room, there is no way to determine whether the light is on or off, and disassembling the light switches will not reveal which one controls the light. All of the switches are in the off position to begin with, and you are not allowed to be helped by anyone.
16. Four people are being pursued by a menacing beast. It is nighttime, and they need to cross a bridge to reach safety. It is pitch black, and only two can cross at once. They need to carry a lamp to light their way. The first person can cross the bridge in no less than 10 minutes, the second in 5 minutes, the third in 2 minutes, and the fourth in 1 minute. If two cross together, The couple is only as fast as the slowest person. (That is, a fast person can't carry a slower person to save time, for example. If the 10-minute person and the 1-minute person cross the bridge together, it will take them 10 minutes.) The person or couple crossing the bridge needs the lamp for the entire crossing, and the lamp must be carried back and forth across the bridge (no throwing, etc.)
If they don't all get completely across in under $18\frac{1}{2}$ minutes, who ever is on the bridge or left behind will be eaten by the beast. Is it possible for all of them to get across?
17. Two grade six classes were going on a field trip to a museum. They were being transported by two buses each of which had 34 seats. It so happened that there were 30 boys and 34 girls, and so they put all the boys on one bus and the girls on the other bus. The buses had to stop for a few minutes, and at that time several boys sneaked onto the girls' bus. But the girls' bus driver noticed that there were 10 too many on the bus, so he sent 10 children (boys and girls) back to the boys' bus. After this was done, were there more boys on the girls' bus than girls on the boys' bus? Or vice versa?

18. In the figures, there are cards with red backs and blue backs.

In figure with two cards, what is the minimum number of cards that you have to turn over to make sure that the following statement is true?

Every card with a blue back has a 2 on the other side.

In the figure with four cards, what is the minimum number of cards that you have to turn over to make sure that the same statement is true?

