

Bank of Puzzles

TTL A

1. *This sentence and the next one are true.*
This sentence has exactly three words in it.

Is the first sentence true or false?

2. Dilshad said “I am older than 15 and not older than 15” . Is her statement truthful or lying?

3. Mia makes the statement “I went to the store and the theater”. If she is lying, then which of the situations below are possible?

Situation 1: Mia went to the store and the theater.

Situation 2: Mia went to the store but not the theater.

Situation 3: Mia went to the theater but not the store.

Situation 4: Mia didn't go to the theater and he didn't go to the store.

4. If a box is not not not not open, is it open or closed?

5. Suppose you are visiting an island with knights, who always tell the truth, and knaves, who always lie. Which statement is impossible for an islander to make?

I am either a knight or a knave.

I am a knight.

I am a knave.

TTL B

1. Suppose you are visiting an island with knights and knaves. Knights tell the truth on every day but Saturday, on which they always lie. Knaves lie on every day but Saturday, on which they always tell the truth. You don't know what day of the week it is. You meet an islander and ask, "Is it Saturday?" They respond "Yes."

What type must the islander be?

- A sknight
 - A sknave
 - It is impossible to determine
2. Alice, Bob, Charlie, and David have all been invited to a party.
- Charlie says that he will go to the party if (and only if) Alice **and** Bob are going to the party.
 - David says that he will go to the party if (and only if) Alice **or** Bob is going to the party.

If Alice decides to go to the party but Bob decides not to go to the party, which is true?

- Charlie and David both go to the party.
 - Charlie goes to the party, but David does not.
 - Charlie does not go to the party, but David does.
 - Charlie and David both do not go to the party.
3. Three kids named Jamie, Mary, and Ava talked to their parents after taking a test. Each one either aced the test or didn't, and the kids are aware of how each other did. Of the four statements in the multiple choice options, which of the situations is not possible? That is, the other three are possible, which one is not? [Hint: Go through the cases if 0, 1, 2, or all 3 children aced the test.]
- All of them are telling the truth
 - Exactly 2 of them are telling the truth
 - Exactly 1 of them is telling the truth
 - None of them are telling the truth.

4. The two children are not the same age.
- A: I am the younger or I am the truth teller.
 - B: I am the older and I am the truth teller.

One of them is telling the truth and the other is lying. Who is the truth-teller?

[Note: Our use of “or” is “inclusive or”; a statement which uses “or” is true so long as at least one of the two parts is true.]

A

B

TTL C

S1

A: I am a Knight

B: I am not a Spy

C: I am a Knave

S2

A: I am a Knight

B: I am not a Spy

C: A is not a Knave

S3

A: I am a Knight

B: I am a Spy

C: I am a Knave

S4

A: I am a Knight

B: I am a Spy

C: A is a Knight

S5

A: I am a Knight

B: I am a Knave

C: B is a Knave

S6

A: I am a Knight

B: I am a Knave

C: B is not a Knight

S7

A: I am a Knight

B: I am a Knave

C: A is a Spy

S8

A: I am a Knight

B: I am a Knave

C: B is a Spy

S9

A: I am a Knight

B: I am a Knave

C: B is a Knight

S10

A: I am a Knight

B: I am a Knave

C: B is not a Knave

S11

A: I am a Knight

B: A is a Spy

C: A is not a Knave

S12

A: I am a Knight

B: C is a Spy

C: A is a Knight

S13

A: I am a Knight

B: A is a Knight

C: B is a Knight

S14

A: I am a Knight

B: A is a Knight

C: A is not a Knave

S15

A: I am a Knight

B: A is a Knight

C: B is not a Knave

S16

A: I am a Knight

B: A is a Knight

C: If you asked me, I would say that A is the spy

S17

A: I am a Knight

B: C is a Knight

C: A is not a Knave

S18

A: I am a Knight

B: C is a Knight

C: If you asked me, I would say that A is the spy

S19

A: I am a Knight

B: A is not a Knave

C: B is not a Knave

S20

A: I am a Knight

B: A is not a Knave

C: If you asked me, I would say that A is the spy

References

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