

1. On an island, there are two kinds of inhabitants, knights, who always tell the truth, and their opposites, knaves, who always lie. You encounter two people A and B. Determine, if possible, what A and B are if they address in the ways described. (a) A says "B is a knight" and B says "The two of us are of opposite types". (b) A says "At least one of us is a knave" and B says nothing.
2. Five friends have their gardens next to one another, where they grow three kinds of crops: fruits (apple, pear, nut, cherry), vegetables (carrot, parsley, gourd, onion) and flowers (aster, rose, tulip, lily).
 1. They grow 12 different varieties.
 2. Everybody grows exactly 4 different varieties
 3. Each variety is at least in one garden.
 4. Only one variety is in 4 gardens.
 5. Only in one garden are all 3 kinds of crops.
 6. Only in one garden are all 4 varieties of one kind of crops.
 7. Pear is only in the two border gardens.
 8. Paul's garden is in the middle with no lily.
 9. Aster grower doesn't grow vegetables.
 10. Rose growers don't grow parsley.
 11. Nuts grower has also gourd and parsley.
 12. In the first garden are apples and cherries.
 13. Only in two gardens are cherries.
 14. Sam has onions and cherries.
 15. Luke grows exactly two kinds of fruit.
 16. Tulip is only in two gardens.
 17. Apple is in a single garden.
 18. Only in one garden next to Zick's is parsley.
 19. Sam's garden is not on the border.
 20. Hank grows neither vegetables nor asters.
 21. Paul has exactly three kinds of vegetable.

Who has which garden and what is grown where?
3. Eight married couples meet to lend one another some books. Couples have the same surname, employment and car. Each couple has a favorite color. Furthermore we know the following facts:

1. Daniella Black and her husband work as Shop-Assistants.
 2. The book "The Seadog" was brought by a couple who drive a Fiat and love the color red.
 3. Owen and his wife Victoria like the color brown.
 4. Stan Horricks and his wife Hannah like the color white.
 5. Jenny Smith and her husband work as Warehouse Managers and they drive a Wartburg.
 6. Monica and her husband Alexander borrowed the book "Grandfather Joseph".
 7. Mathew and his wife like the color pink and brought the book "Mulatka Gabriela".
 8. Irene and her husband Oto work as Accountants.
 9. The book "We Were Five" was borrowed by a couple driving a Trabant.
 10. The Cermaks are both Ticket-Collectors who brought the book "Shed Stoat".
 11. Mr and Mrs Kuril are both Doctors who borrowed the book "Slovacko Judge".
 12. Paul and his wife like the color green.
 13. Veronica Dvorak and her husband like the color blue.
 14. Rick and his wife brought the book "Slovacko Judge" and they drive a Ziguli.
 15. One couple brought the book "Dame Commissar" and borrowed the book "Mulatka Gabriela".
 16. The couple who drive a Dacia, love the color violet.
 17. The couple who work as Teachers borrowed the book "Dame Commissar".
 18. The couple who work as Agriculturalists drive a Moskvic.
 19. Pamela and her husband drive a Renault and brought the book "Grandfather Joseph".
 20. Pamela and her husband borrowed the book that Mr and Mrs Zajac brought.
 21. Robert and his wife like the color yellow and borrowed the book "The Modern Comedy".
 22. Mr and Mrs Swain work as Shoppers.
 23. "The Modern Comedy" was brought by a couple driving a Skoda.
- Who likes Violet? And can you find out everything about everyone from this?

4. There are 5 ships in a port:

1. The Greek ship leaves at six and carries coffee.
2. The Ship in the middle has a black exterior.
3. The English ship leaves at nine.
4. The French ship with blue exterior is to the left of a ship that carries coffee.
5. To the right of the ship carrying cocoa is a ship going to Marseille.
6. The Brazilian ship is heading for Manila.
7. Next to the ship carrying rice is a ship with a green exterior.
8. A ship going to Genoa leaves at five.
9. The Spanish ship leaves at seven and is to the right of the ship going to Marseille.
10. The ship with a red exterior goes to Hamburg.
11. Next to the ship leaving at seven is a ship with a white exterior.
12. The ship on the border carries corn.
13. The ship with a black exterior leaves at eight.
14. The ship carrying corn is anchored next to the ship carrying rice.
15. The ship to Hamburg leaves at six.

Which ship goes to Port Said? Which ship carries tea?

(Note: 'to the right' means anywhere on the right side from the given point, not only right next to. Likewise for left.)

5. There are 7 boys on a soccer team. Each boy has a different position, jersey number, and height. Find out each person's height, position, and number.
6.
 1. Justin is the goalie
 2. The right forward is #10
 3. The goalie is 6' 4"
 4. Joe is 6' 1"
 5. Ryan is right forward
 6. The person next to Ryan is #14
 7. The person who is 6' 4" is #16
 8. #10 is 5' 8"
 9. The left forward is #15
 10. Brad is right defense
 11. Brendan is #20
 12. Michael is 7' 1"

13. Miguel is #6
14. Michael is left forward
15. #42 is right defense
16. Brad is 6' 2"
17. #6 is center defense
18. #15 is 7' 1"
19. #20 is 6' 7"
20. Miguel is 5' 10"
21. #14 is 6' 1"
22. The person who is 6' 7" is left defense
23. Joe is center forward

(Contributed by Michael B and Brendan D, Grade 5, Edgar Allan Poe School)

7. 5 people are standing in a queue for plane tickets in Germany; each one has a name, an age, a favorite TV program, where they live, a hairstyle and a destination.

Names: Bob, Keeley, Rachael, Eilish and Amy

TV programs: The Simpsons, Coronation Street ("Corrie"), Eastenders, Desperate Housewives and Neighbours.

Destinations: France, Australia, England, Africa and Italy

Ages: 14, 21, 46, 52 and 81

Hairstyle: Afro, long, straight, curly and bald

Where they live: A town, a city, a village, a farm and a youth hostel

1. The person in the middle watches Desperate Housewives
2. Bob is the first in the queue
3. The person who watches the Simpsons is next to the person who lives in a youth hostel
4. The person going to Africa is behind Rachael
5. The person who lives in a village is 52
6. The person who is going to Australia has straight hair
7. The person travelling to Africa watches Desperate Housewives
8. The 14-year-old is at the end of the queue
9. Amy watches Eastenders
10. The person heading to Italy has long hair

11. Keeley lives in a village
12. The 46-year-old is bald
13. The fourth in the queue is going to England
14. The people who watch Desperate Housewives and Neighbours are standing next to each other
15. The person who watches Coronation Street stands next to the person with an afro
16. A person next to Rachael has an afro
17. The 21-year-old lives in a youth hostel
18. The person who watches Corrie has long hair
19. The 81-year-old lives on a farm
20. The person who is travelling to France lives in a town
21. Eilish is not next to the person with straight hair

(This puzzle was devised by Zoe Reader, Bourne Grammar School, Bourne, Lincolnshire, in March 2006, and revised by Bob Bundy, phrontister and anonimystefy of the Math is Fun Forum in June 2012)

8. There are five houses in a row, numbered from left to right, each of a different color and inhabited by people of different nationalities, with different pets, drinks and jobs. You are given the following clues:

- The English person lives in the red house;
- The Spaniard owns the dog;
- Coffee is drunk in the green house;
- The Ukrainian drinks tea;
- The green house is immediately to the right of the ivory house;
- The Carpenter owns snails;
- The Teacher lives in the yellow house;
- Milk is drunk in house #3;
- The Norwegian lives in house #1;
- The Gardener lives in the house next to the man with the fox;
- The Teacher lives next to the house where the horse is kept;
- The Doctor drinks orange juice;

- The Baker is Japanese;
- The Norwegian lives next to the blue house;

Someone drinks water, who is it?

Someone owns a zebra, who is it?

(Modified from the International Edition of Life Magazine 1962)

9. There are five people - Holly, Cameron, Julieanne, Alex and Jackie.

Each one stole a special cookie of their favorite brand which was kept in a jar.

Each person ate it in a particular place and drank their flavored milk with it.

- Jackie is next to the person who eats on the lounge.
- Arnotts brand cookies are kept in a round jar.
- The person beside Cameron eats cookies at a table.
- The person who eats Oreos eats in the closet
- Julieanne likes Paradise brand cookies
- The person who drinks banana milk is in the middle and owns a tall jar
- The first person likes vanilla milk
- Holly is the person on the far right
- The person who eats in the bedroom drinks strawberry milk
- The person who owns the tall jar is next to the person who owns square jar
- Cameron drinks caramel milk
- The person who likes the Dick Smith brand is next to the person who likes the Coles brand
- The person who likes the No Frills brand is next to the person who owns a round jar
- The person who stole the 100s and 1000s cookies is next to the person who owns the brass jar
- The second person from the right eats No Frills brand and is next to the person who owns a round jar
- The first person on the left stole the choc chip cookies
- The person who eats Dick Smith brand is next to the person who eats Paradise brand
- The second from the left has a brass jar
- Julieanne is to the right of the person who drinks strawberry milk
- The person who drinks chocolate milk does it at the table

- The Paradise brand cookies are eaten in the kitchen
- The person who eats Tiny Teddies doesn't keep them in a round jar
- The Coles brand cookies are kept in a mini sized jar

A Ginger Cookie was also stolen. Who stole it?

(This puzzle was devised by Year 6G, Our Lady Star of the Sea School, Miranda, Australia, in November 2005)

10. Alex, Betty, Carol, Dan, Earl, Fay, George and Harry are eight employees of an organization

They work in three departments: Personnel, Administration and Marketing with not more than three of them in any department.

Each of them has a different choice of sports from Football, Cricket, Volleyball, Badminton, Lawn Tennis, Basketball, Hockey and Table Tennis not necessarily in the same order.

Dan works in Administration and does not like either Football or Cricket.

Fay works in Personnel with only Alex who likes Table Tennis.

Earl and Harry do not work in the same department as Dan.

Carol likes Hockey and does not work in Marketing.

George does not work in Administration and does not like either Cricket or Badminton.

One of those who work in Administration likes Football.

The one who likes Volleyball works in Personnel.

None of those who work in Administration likes either Badminton or Lawn Tennis.

Harry does not like Cricket.

Who are the employees who work in the Administration Department?

In which Department does Earl work?

Reference: <https://www.mathsisfun.com/puzzles/einstein-puzzles-index.html>