



Problem of the Week

Problem D and Solution

Fast Bikers

Problem

The top five finishers in a bike race were Albine, Farrah, Jasna, Nuan, and Terese, in some order. They all rode a different-coloured bike (black, white, green, blue, or red), and were a different age (18, 21, 25, 26, or 29). Use the clues below to determine each person's age, bike colour, and final position in the race.

1. The five people in the race were the person who finished first, the 26-year old, Nuan, the person with the white bike, and Albine.
2. Jasna rode the white bike and finished third.
3. Nuan is 3 years younger than the person who rode the red bike.
4. The oldest person rode the white bike and finished just before the youngest person, who rode the black bike.
5. The person with the green bike finished first, and someone younger finished right after.
6. Terese finished right after Nuan.

You may find the following table useful in organizing your solution.

	1 st	2 nd	3 rd	4 th	5 th	Black	White	Green	Blue	Red	18	21	25	26	29
Albine															
Farrah															
Jasna															
Nuan															
Terese															
18															
21															
25															
26															
29															
Black															
White															
Green															
Blue															
Red															



Solution

First we will give the answer, and then an explanation as to how we arrived at the answer.

- Farrah is 25 years old, rode the green bike, and finished first.
- Albine is 21 years old, rode the red bike, and finished second.
- Jasna is 29 years old, rode the white bike, and finished third.
- Nuan is 18 years old, rode the black bike, and finished fourth.
- Terese is 26 years old, rode the blue bike, and finished fifth.

There are many different ways to arrive at the answer above. You may have used the table provided to keep track of matches that were confirmed or deemed impossible while examining and combining the different clues. Below we present an explanation in words only. It may be helpful to follow along by filling in the table as you read the explanation.

From clues 2 and 4, Jasna rode the white bike, finished third, and is 29 years old. Clue 4 also tells us that the 18-year old rode the black bike and finished fourth.

From clue 3, Nuan and the person who rode the red bike must be either 18 and 21 years old, or 26 and 29 years old. However, from clue 1, we know Nuan is not 26 years old. It follows that Nuan must be 18 years old and the person who rode the red bike must be 21 years old. That means Nuan is the person who finished fourth and rode the black bike.

From clue 5, Terese finished fifth. It follows from clue 1 that Terese is 26 years old since she did not finish first or ride the white bike.

The people who finished first and second must therefore be 25 and 21 years old, in some order. It follows from clue 5 that the 25-year old must have finished first, followed by the 21-year old, who we already determined rode the red bike. Clue 5 also tells us the person who finished first rode a green bike. It follows that Terese rode a blue bike.

From clue 1, Albine did not finish first, so that means she finished second, and Farrah finished first.