



Problem of the Week

Problem A and Solution

Tents Situation

Problem

Four families are going camping. The families are each of a different size, with 3, 4, 5, or 6 family members, and each have a different coloured tent.

Using the clues below, determine the family size and tent colour for each family.

- (1) The Boivin family uses a yellow tent.
- (2) The family with the blue tent has the fewest family members.
- (3) The Kerr family does not have the most people in their family and they are not in the red tent.
- (4) The family in the yellow tent has the most members in their family.
- (5) The family in the red tent has one fewer family member than the family in the yellow tent.
- (6) The Omanovic family is not in the green tent nor in the blue tent, and they are not the family with the fewest members.
- (7) The green tent has the second lowest number of family members.
- (8) The Banerjee family has half the number of family members as another family.



Solution

Here is one way to match the families with the number of family members and the tent colours.

Clue (1) tells us that the Boivin family uses the yellow tent. Then, from Clue (4), we know that the Boivin family has the most members in their family, and so has 6 family members.

Thus, the Boivin family has 6 family members and uses the yellow tent.

From Clue (5), we know that the family in the red tent has one fewer family member than the family in the yellow tent. Since the family in the yellow tent has 6 family members, the family in the red tent has 5 family members. From Clue (6), the Omanovic family is not in the green tent nor in the blue tent. Since the Boivin family is in the yellow tent, then the Omanovic family is not in the yellow tent. So the Omanovic family must be in the red tent.

Thus, the Omanovic family has 5 family members and is in the red tent.

Clue (8) tells us that the Banerjee family has 3 family members, because 3 is the only number that is half of another number of family members. Thus, the Banerjee family has the fewest family members. Clue (2) then tells us that the Banerjee family is in the blue tent.

Thus, the Banerjee family has 3 family members and is in the blue tent.

This means that the Kerr family must have 4 family members and be in the green tent.

So we have deduced the following matches:

The Boivin family has 6 members and a yellow tent.

The Omanovic family has 5 members and a red tent.

The Kerr family has 4 members and a green tent.

The Banerjee family has 3 members and a blue tent.

Once we think we have our final answer, we should double check that all of the clue statements are true. Note that our solution did not use Clue (3) or Clue (7), however these clues match our final answer.