

## Murder Logic Problem

**Setting:** It was a very unusual weekend when six victims (Kelly, Lynn, Robin, Leslie, Dana, and Chris) were invited by the owner of a large mansion (Mr. Mason) and five of his friends (Miss Jones, Professor Johnson, Mrs. White, Mr. Green, and Mrs. Black) to a party. Unfortunately, by the time the Crime Scene Investigator was called to the scene, all of the victims had died under unusual circumstances, none before noon, and none later than 10:00 p.m. on that Saturday.

**Procedure:** Using the data statements below, you are hired as a crime scene investigator and are to assist in determining who was killed in each murder, the weapon that was used by each, the room in which the crimes occurred, the time at which each murder occurred, the name of the victim for each of the murders, and the sex of each victim. All victims died in different rooms, at different times, and from different weapons.

### Data

- Four victims were males, none of whom were killed before 2:00 p.m., shot, or found in the lounge, kitchen, or computer lab.
- Each murder occurred while the clock was striking an even number. The clock sounded only on the hour.
- Leslie and his twin sister arrived at 6:00 p.m., being greeted by their very good friend, Miss Jones, with whom they talked for 20 minutes.
- The woman who used the semi-automatic pistol killed a female in the computer lab.
- Mrs. Black was in the library all afternoon, but was not strong enough to use a hammer.
- Robin had once been married to Professor Johnson and knew only him and her killer from among all those in the house when she got there early in the morning.
- The person who fired the revolver in the lounge killed one of the twins after a person had already been stabbed to death.
- The person who used the hammer used it at 4:00 p.m., just after the rope had been used and just before the knife was used.
- All weapons were found in the room where they were used: none were found in the kitchen or dining room.
- Kelly did not die before 5:00 p.m.
- Professor Johnson's victim was found in the study room, but had not been there when Mr. Mason had gone in at 9:00 p.m.
- The ballroom was being remodelled so no one could get into it.
- Dana took a short walk at 7:00 p.m., but the other female had been dead for at least 6 hours by that time.
- The man who knifed Kelly loved to play billiards just before his 7:30 p.m. dinner, which always lasted one hour.
- The twin that was the last of all of the victims to die was struck with the lead crowbar by a man.
- Lynn was strangled at 2:00 p.m., two hours after Miss Jones had killed someone and two hours before the person died in the hall.
- Mrs. White, who left the house for the last time at 4:30 p.m., killed neither Kelly nor a female, and did not go into the study room, the billiard room, the library, or the computer lab all day.
- Professor Johnson's victim died two hours after his sister.
- Mr. Green, who did not use either the hammer or the lead crowbar, did not get to the house before 6:00 p.m., and was never in the library.

| Murderer   | Weapon  |      |        |        |       |          | Location |        |      |           |         |          |              | Time        |         |       |      |      |      | Victim |       |       |      |       |        |      |       |
|------------|---------|------|--------|--------|-------|----------|----------|--------|------|-----------|---------|----------|--------------|-------------|---------|-------|------|------|------|--------|-------|-------|------|-------|--------|------|-------|
|            | Crowbar | Rope | Hammer | Pistol | Knife | Revolver | Study    | Lounge | Hall | Dining Rm | Kitchen | Ballroom | Computer Lab | Billiard Rm | Library | 12:00 | 2:00 | 4:00 | 6:00 | 8:00   | 10:00 | Kelly | Lynn | Robin | Leslie | Dana | Chris |
| Mr. Melvin |         |      |        |        |       |          |          |        |      |           |         |          |              |             |         |       |      |      |      |        |       |       |      |       |        |      |       |
| Miss Jones |         |      |        |        |       |          |          |        |      |           |         |          |              |             |         |       |      |      |      |        |       |       |      |       |        |      |       |
| Johnson    |         |      |        |        |       |          |          |        |      |           |         |          |              |             |         |       |      |      |      |        |       |       |      |       |        |      |       |
| Mrs. James |         |      |        |        |       |          |          |        |      |           |         |          |              |             |         |       |      |      |      |        |       |       |      |       |        |      |       |
| Mrs. White |         |      |        |        |       |          |          |        |      |           |         |          |              |             |         |       |      |      |      |        |       |       |      |       |        |      |       |

