



PROBLEM OF THE WEEK #7
(Fall 2019)

In a desperate effort to provide a moment of respite amid our panicked flight from the fiends that pursued us, I checked my dear companions into a secure facility, insisting urgently that they stay alert and stay together. Unfortunately, the facility was so secure that when I returned at last, having laid enough false trails to deceive the monsters, I couldn't find my friends. They were nowhere to be seen, and in this particular institution, only the most naïve visitor would open a door without knowing what might be lurking on the other side.

The three guards maintained a disciplined silence in each other's presence, but when I got them alone, they were willing enough to talk. "They're either in cell 6B or 8C," the first guard told me. I checked with the second guard, who said, "They're either in cell 8C or 1A." This seemed to clear it up, but I sought out the third guard anyway. "They're either in cell 1A or 6B," she told me. "But be careful! There are two vampires here acting as guards."

I was stunned, and not only by the revelation that I had led my friends (and myself) into grave peril. I had been relying on the well-known fact that guards always tell the truth — except for vampire guards, who always lie. How could I find my companions now?

[Please fully explain your answer.]

Solutions should be submitted to Cinda Furry, in Gardner Hall 435, by 4:00 P.M. on Wednesday, November 6, 2019.

Every week, the best solution submitted earns a \$10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!

You can always see the Problem of the Week (and complete rules) online at:

<http://uwpmath.weebly.com/>