Problem of the Week
Number Eight
October 31, 2016

I'm sure we've all noticed the use of clocks as dramatic devices in novels and films. Who could forget the dramatic close-ups of the town clock in *High Noon*, as Gary Cooper struggles in real time to round up a posse to face the dreaded Miller gang. Years later a similar dramatic device was used in the film *Nick of Time*, with Johnny Depp and Christopher Walken playing the leads. Walken kidnaps Depp's wife and daughter and threatens to kill them if Depp does not assassinate the Governor within ninety minutes. Mayhem ensues!

Personally, though, I am a big fan of mystery fiction. The greatest mystery writer of all time is undoubtedly John Dickson Carr (surely no one will disagree?), and he frequently made use of clocks as dramatic devices. In *Death-Watch*, the large hand of a giant grandfather clock is used, dagger-like, as a murder weapon. In his masterpiece *The Three Coffins*, several witnesses are able to identify the exact time of certain odd events because of a large clock in the window of a storefront. This ends up being an important clue! In *The Reader is Warned*, a *High Noon*-like attention to time is set-up when a man claiming to have telepathic powers predicts the death of a well-protected individual at 8:00 on the nose. And do I really need to call attention to his novel *The Skeleton in the Clock*?

But if we are discussing clocks in mystery fiction, then I really must mention Agatha Christie's novel *The Clocks*. Famed detective Hercule Poirot is challenged to solve, from his armchair, a murder in which four clocks, all stopped at the same time, are found surrounding the victim. It hardly counts as a spoiler to mention that he is successful.

Problem of the Week is serious business, but I trust no deaths will be involved. So have a go at this week's problem:

At 4:00, the hands of a clock form a 120 degree angle. After how many minutes will the hands again form a 120 degree angle?

Think you have it figured out? Then follow these instructions to the letter:

Submissions are due to Jason Rosenhouse by 5:00 on ***Friday, November 4****. Solutions should be written on the back of an official POTW handout. Place your name, e-mail address, and the section numbers and professors of any math courses you are taking, in the* ***upper right corner*** *of the front of the page. One weekly winner will receive a five-dollar gift card from Starbucks. Solutions will be posted at this website, by the Monday after the problem is due:*

http://educ.jmu.edu/∼rosenhjd/POTW/Spring15.html