
Problem of the Week

Number Seven

March 11, 2013

We sure do get some dramatic changes in weather, don't we? One day we're having epic snowstorms, the next it's sixty degrees. This got me wondering if there's any constancy at all to be found here. Well, it turns out there's exactly one temperature that is the same on the Fahrenheit and Celsius temperature scales. Can you find it?

But that's not the problem of the week. This is:

Mr. Smith keeps all his socks in one drawer. Each morning, he pulls out two of them at random. Wearing unmatched socks does not bother him, you see, so he just takes his chances. At night those two socks are returned to the drawer, so that he repeats precisely the same procedure each day. (Apparently he also does not care about wearing dirty socks!) If he has four pairs of socks – one black, one white, one red and one blue – how many days per week, on average, will he be found wearing a matching pair?

See what you can make of that one. And if you're curious about the opening question, it might help to recall that $C = \frac{5}{9}(F - 32)$, where C is the Celsius temperature and F is the Fahrenheit temperature. With that it should not be too difficult to work it out for yourself.

Solutions are due to Jason Rosenhouse by 5:00 on Friday, March 15. One weekly winner will receive a five-dollar gift card from Starbucks. Winners will be drawn randomly from among the correct answers. The solution will be posted at the POTW website:

<http://educ.jmu.edu/~rosenhjd/POTW/Spring13/spring13.html>