Student B. R. was annoyed by TV commercials. He suspected that there were more commercials in the "basic" TV channels, the ones that come with a cable TV subscription, than in the "extended" channels you pay extra for. To check this, he collected the data shown in Table 1.

He measured an average of 9.21 minutes of commercials per half hour in the basic channels, vs only 6.87 minutes in the extended channels. This seems to support his hypothesis. But there is not much data perhaps the difference was just random. The poor guy could only stand to watch 20 random half hours of TV. Actually, he didn't even do that he got his girlfriend to watch half of it. (Are you as appalled by the deluge of commercials as I am? This is per half-hour!)

Basic	6.95	10.013	10.62	10.15	8.583
	7.62	8.233	10.35	11.016	8.516
Extended	3.383	7.8	9.416	4.66	5.36
	7.63	4.95	8.013	7.8	9.58

Table 1: Minutes of commercials per half-hour of TV.

How easy would it be for a difference of 2.34 minutes to occur just by chance? To answer this, we suppose there really is no difference between the two groups, that "basic" and "extended" are just labels. So what would happen if we assign labels randomly? How often would a difference like 2.34 occur?