

Friends You Can Count On

Level E

The local newspaper in your community conducted a survey. The survey sampled workers at one employer in the community about the use of drugs. On the anonymous survey, 12% of the workers indicated that they experimented with or were currently using drugs. The employer is concerned and decides to drug test all 1,200 employees. If an employee fails a test, they will be fired.

Most of the workers are upset and nervous about such a test. They are saying, “How do we know the tests are accurate?” “What if you are taking medication for some ailment? Would that indicate that you are taking illegal drugs?” “What happens if you get a false positive reading?” “How long after you take a drug will the test show positive?” “What if you stopped taking a prescribed drug for more than three months? Would you still test positive?”

You know that this drug test will cause a lot of anxiety at work. The employer feels pressure to take action. You want to stop the employer from testing all the workers. You know it will take a convincing argument to change their minds. You must find a way to show that the test may hurt some employees.

You decide to research the test. You call the drug-testing company that the employer is considering hiring and ask for documentation on their tests. In their literature, it states that the tests are accurate 96% of the time.

You start to consider the information you have available. If the newspaper survey was accurate that 12% take drugs, how many of the workers supposedly take drugs? How many workers are drug-free? If all the workers are required to take the drug test, how many of the workers’ tests will be accurate? How many of the tests will be inaccurate? How many workers who do not take drugs will have a test that wrongly shows that they do take drugs? How many of the workers who use drugs (either experimentally or regularly) will have an accurate test?

You are getting ready to present your argument to the employer. What mathematical arguments can you present to argue against general drug testing for all employees?

