

# Jet copies case problem course work sample

[Business](#)



**ASSIGN  
BUSTER**

## **Assignment #1**

For counting the probable number of days that would be needed to repair the copier I had to input the probability distribution model into excel sheet. Then I added the column that calculated the cumulative value for each of these probabilities. After making this I generated 20 random values between 0 and 1. For each of these random values I calculated the number of days needed to repair the equipment and finally counted the average of all the values and got the number equal to 2, 43 days. This would be probable the average time needed to repair the copier when it breaks down.

After counting the average time for repairing the equipment I had to find out what would be the probable interval between breakdowns of the equipment. The simplest way to do it was to use random values and then the average of random values. For this I generated 20 random numbers with minimum and maximum constraints equal to 1 and 6. After counting the average of all these numbers I got the number equal to 3. This number can change if we perform many operations with random numbers.

In this case lost revenue is the amount of money that could be earned but were lost because business was not working, due to broken down copier. For counting revenue per day we can use the average amount of approximated minimum and maximum incomes per day. If we know that Business can sell minimum 2000 copies and maximum 8000 copies per day and the revenue per copy is 0, 10 dollars, than the daily revenue would be from 200 to 800 dollars. The average amount of these two figures is 500 dollars.

For final counting of total lost revenue we had to put together all information we got before. First we need to find out the approximate number of total breakdowns per year. For this we divided the number of weeks per year (52 weeks) on breakdown period (3 weeks) and got the number 17, 3 breakdowns. Now we have to calculate how many days is business loosing if copier breaks down 17, 3 times per year in average. For this calculation we need the number of days it is being repaired. In average it equals to 2, 43 days. We multiplied this figures and got  $2, 43 * 17, 3 = 42, 1$  days. Now we have to multiply these days and daily revenue lost. We will get the figure equal to \$ 21 047. This means that it would be much cheaper to buy a new backup printer for 8000 dollars rather than loosing such pretty big revenue.

The answer is good one because it reflects the possible loss of revenue that can be solved by additional investment. This answer could be slightly different if we used other statistical methods but anyway any statistical answer is just a probability and the fact can be seen only testing in practice. However, this simulation was performed to give the answer to particular question and the answer is given successfully. The limitation of the answer is that the simulation was run once and to get more exact numbers it should be ran more times. As more times it is ran, more accurate answer you get.