Homework 6

For the problems below, specify answers to three digits of precision.

1. Show if the component qualifies for “IT Power” and calculate Power Utilization Efficiency:

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| **Component** | **Power Consumption (kw)** | **IT power? (Y/N)** |
| Routers and switches | 20 |  |
| Video monitoring | 10 |  |
| Power distribution loss | 35 |  |
| Machine power supplies | 1500 |  |
| Monitoring and test equipment | 18 |  |
| Lighting | 7 |  |
| Air conditioning | 150 |  |
| Disk arrays | 80 |  |
| Fire Detection Sensors | 6 |  |

1. Disk drives used in a data warehouse have a 1.5M hour MTTF. There are 100,000 servers, each with at least 3 drives in them. There are 10,000 of those which have an extra 10 drives in them. How many disk failures per day can be expected?
2. Servers in a warehouse are 89% available. The failure of how many servers must be tolerated so that the warehouse has an availability of 99.999%?