1. You are the Finance Manager for Company X, and you are looking at your AR balances. Based on past data, you know that on average 40% of your customers are more than 60 days late with payments

Let’s say you have a total of 5 customers, and you want to create a contingency for situations where > 50% of your customers are late?

What is the probability of zero customers being late?

2. Only 5% of new products fail quality control testing.

Q: If you test 20 new products, what is the probability that none will fail QC?

3. A basketball player makes 60% of his free throws. At the end of the game this player has to shoot six free throws.

Q: What is the probability that she makes less than 5?

4. A manufacturer produces PenDrives in batches of 10,000. On average, 2% of the PenDrives are defective.

A retailer purchases PenDrives in batches of 1,000. The retailer will return any shipment if 3 or more PenDrives are found to be defective out of 30 bathes. For each batch received, the retailer inspects thirty PenDrives. What is the probability that the retailer will return the batch?

5. You work as a manager in a call center. You have a staff of 55 people, who on average handle 330 calls in an hour. A major holiday is coming up and 5 resources want leave. You estimate that the 50 remaining resources can manage 20% greater calls, but want to plan for the chances if greater than 20% increased call volume.

What are the chances that the number of calls on that day will go up by more than 20% ?

6. Suppose a life insurance company insures the lives of 5000 persons aged 52.

As per the studies show the probability that any 52 year old person will die in a year to be 0.001, find the probability that the company will have to pay at least two claims during a given year.

7. A website can expect 2 customers every 3 minutes, on average. What is the prob that 4 or fewer customers will enter the website in a 9 minute period.

8. Suppose a life insurance company insures the lives of 5000 persons aged 52. If studies show the probability that any 52 year old person will die in give year to be 0.001, find the probability that the company will have to pay at least two claims during a given year.

9. A leading reality builder Olympia opaline sells homes on an average of 2 per day. What is the probability that exactly 3 homes will be sold tomorrow?

10. A company produces Blue ray player that 0.1 percent of the blue rays are defective. The Blue rays are packed in boxes containing 500 blue rays. A stockiest buys 100 boxes from the producer of blue rays. Using Pois distribution, find how many boxes will contain (a) no defectives (b) atleast 2 defectives

11. A company conducts a historical study of employees. Out of 250 hires, 180 are still with the company, 120 had been offered promotions, and 75 are both with the company and had been offered promotions.

Given that an employee was offered a promotion, what is the probability that they are still with the company?

12. You run a record label whose A&R department is responsible for predicting whether albums by new artists will be hits or flops.

For new artists whose first album will be hit, your A&R department will correctly predict the hit 80% of the time. Unfortunately when the album is destined to be flop, the A&R department will still predict a hit 30% of the time.

You know that debut albums by new artists will turn out to be hits just 10% of the time, the rest of the debut albums will be flops.

Q: If your A&R department predicts a debut album will be a hit, what are the chances that it really will be?