**Probability Calculations Using Probability Distributions**

**Links to probability distribution tables:**

**Normal / Z:** [**https://drive.google.com/file/d/1q8SIwnR\_Y3YTci95OP3PtH7tF9VktRCw/view?usp=sharing**](https://drive.google.com/file/d/1q8SIwnR_Y3YTci95OP3PtH7tF9VktRCw/view?usp=sharing)

**Binomial:** [**https://drive.google.com/file/d/1wFluLjksIIw4mMcr-\_K7hBx4mPm6viX5/view?usp=drive\_link**](https://drive.google.com/file/d/1wFluLjksIIw4mMcr-_K7hBx4mPm6viX5/view?usp=drive_link)

**Poisson:** [**https://drive.google.com/file/d/1JrC8o8sryvLpwBEGKlgXuKb5lxlxv8j2/view?usp=sharing**](https://drive.google.com/file/d/1JrC8o8sryvLpwBEGKlgXuKb5lxlxv8j2/view?usp=sharing)

1) **Normal** - An electronics store sells an average of 500 computers each month, with a standard deviation of 40. Their sales are normally distributed.

1. What is the Z value for 450 sales?
2. What is the Z value for 560 sales?
3. What is the probability of selling 500 or less computers in any given month?
4. What is the probability of selling 400 or more computers in any given month?
5. What is the probability of selling between 475 and 575 computers in any given month?

2) **Binomial** - A bank lends money to 5 customers, with the probability of default being 10%.

1. What is the probability of 0 defaults?
2. What is the probability of 3 defaults?
3. What is the probability of 5 defaults?
4. What is the probability of 3 or less defaults?
5. What is the probability of 3 or more defaults?

3) **Poisson** - A call center is called an average of 5 times per hour.

1. What is the probability of getting 0 calls in one hour?
2. What is the probability of getting 5 calls in one hour?
3. What is the probability of getting 8 calls in one hour?
4. What is the probability of getting less than 3 calls in one hour?
5. What is the probability of getting more than 3 calls in one hour?