**Some Common Statistics Distributions**

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| Name of Distribution | Conditions | Parameters | Equation | Graph | Typical Example |
| Binomial | * Discrete data * Stated (or fixed) number of trials * Only two outcomes; pass or fail * Probability constant throughout * Independence |  |  |  | Find probability of obtaining at least 4 sixes when throwing a die 6 times. |
| Normal | * Continuous data * Symmetrical distribution |  |  |  | If mean height is 1.8m with variance of 0.04m, find probability that someone is less than 1.7m tall. |
| Poisson | * Probability constant throughout * Independence * Two events can’t occur at once |  |  |  | If average number of lions seen on a 1-day safari is 5, find probabilities of seeing exactly 6 lions and less than 4 lions on the next safari. |
| Geometric | * Probability constant throughout * Independence * Only two outcomes; pass or fail |  |  |  | Find probability of passing driving test on 3rd attempt, assuming probability of passing is 1/3 each time. How about ? |
| Uniform (Rectangular) | * Discrete data * Probability constant throughout * Independence | [a, b] |  |  | Prove that  and that |
| Student’s  T-Squared | * Continuous data * Non-Symmetrical distribution |  |  |  |  |