# Calculator Instructions TI-36X Pro

*NOTE: You might need to CLEAR A LIST BEFORE ENTERING DATA.  To do so* Press the **DATA** key twice. Select the list you want to clear and press **Enter**.

## To calculate mean, standard deviation and five number summary:

1. Press the **DATA** key.
2. Enter data values in list one (**L₁**).
3. Press the **2nd** key and **MODE** to quit from the list
4. Press the **2nd** key and **DATA** and scroll down to 2: **1-Var Stats** and press **Enter**.
4. Scroll down to **CALC.**
5. The $\bar{x}$ value is the mean and the Sx value is the standard deviation.
6. Continue to scroll down for min, Q1, med, Q3 and max.  This is your five-number summary.

## To calculate regression line, r and r²

1. Press the **DATA** key.
2. Enter data values in list one (**L₁**) and list two (**L₂**).  Use > to get to (**L₂**)
3. Press the **2nd** key and **MODE** to quit from the list
4. Press the **2nd** key and **DATA** and scroll down to 4: **LinReg ax+b** and press **Enter**.
5. Ensure **L₁** is highlighted for xDATA and **L₂** is highlighted for yDATA.
6. Select ONE for FRQ and NO for RegEQ→ *f(x)*
7. Highlight CALC and press **Enter.**
8. Scroll down for *r,* and *r²*

## To calculate factorial (!), permutation ($_nP_r$), and combination ($_nC_r$)

1. For factorial, press the number you want to compute, then press 
$$\boxed{\begin{array}{c} ! \quad (P_r) \\ (C_r) \end{array}}$$
just once for ! and **Enter**.

2.  For combination, press the number for *n,* then press 
$$\boxed{\begin{array}{c} ! \quad (P_r) \\ (C_r) \end{array}}$$
twice for ($_nC_r$) and **Enter.**

3.  For permutation, press the number for *n,* then press 
$$\boxed{\begin{array}{c} ! \quad (P_r) \\ (C_r) \end{array}}$$
three times for ($_nP_r$) and **Enter.**

## To calculate an area/probability for the Normal Distribution

1. Press the **2nd** key then the **DATA** key to access *STAT-REG/DISTR.*
2. Press the > to highlight **DISTR.**
3. Press the ↓ to access Normalcdf. (*NOTE: You will never use Normalpdf)*
4. Follow the prompts and enter the values for μ and σ.
5. Press the ↓ to access the Lowerbound and Upperbound and enter those values.
6. Press CALC when you are done.

*To calculate the mean, μ, and the standard deviation, σ, for a Discrete Random Variable  μ = Σx•p(x)*

**You might want to start by making the following table to complete as you compute.**

**Computation Table**

| Random Variable Table | | $\Sigma L_1 = \mu$ | $L_2$ |
|---|---|---|---|
| | | x• P(x) | x²•p(x) |
| x | P(x) | 0•.05 = 0 | 0²•.05 = 0 |
| 0 | 0.05 | 2•.17 = .34 | 2²•.17 = .68 |
| 2 | 0.17 | 4•.43 = 1.72 | 4²•.43 = 6.88 |
| 4 | 0.43 | 6•.35 = 2.1 | 6²•.35 = 12.6 |
| 6 | 0.35 | μ = sum L₁ = 4.16 | sum of L₂ = 20.16 |
| | | | 20.16 − 4.16² = 2.85442 |

$\sigma = \sqrt{2.85442} = 1.6895$

## *To calculate the mean, μ, for a Discrete Random Variable:  μ = Σx•p(x)*

1. Press the **DATA** key to access the Lists (you might want to make a table on paper like the one above.)
2. Using the Random Variable Table: in $L_1$ multiply each value from $x$ times each corresponding value in *P(x)*
3. To find the sum of $L_3$ press the **2nd** key then the **DATA** key to access *STAT-REG/DISTR*. Compute 1-Var Stats for $L_1$
4. Press the ↓ to access **Σx**. This is *μ*

## *To calculate the standard deviation, σ, for a Discrete Random Variable*
$$\sigma = \sqrt{\sum x^2 \cdot p(x) - \mu^2}$$

1. Press the **DATA** key to access the Lists.  Clear $L_2$ and  $L_3$
2. In $L_2$ compute, using this formula (value in $L_1$ - μ)² Note: μ was computed in the steps listed above: *To calculate the mean, μ, for a Discrete Random Variable  μ = Σx•p(x)*
3. In $L_2$ square each value and multiply it by its corresponding *p(x)* from the Random Variable table.
4. To find the sum of $L_2$ press the **2nd** key then the **DATA** key to access *STAT-REG/DISTR*. Compute 1-Var Stats for $L_3$
5. Press the ↓ to access **Σx**. This is *σ*.
6. To compute σ take the square root of the value in Step 5.  Calculator: 2ⁿᵈ x², then enter the value in Step 5

## *To calculate an area/probability for the Binomial Distribution*

1.  Press the **2nd** key then the **DATA** key to access *STAT-REG/DISTR*.
2.  Press the > to highlight **DISTR.**
3.  Press the ↓ to access Binomialpdf if you want a probability at exactly one variable and **Enter**.
4.  Press the ↓ to access Binomialcdf if you want a probability between two variables and **Enter**.
5.  Press the > to highlight **ALL** and **Enter**.
6.  Follow the prompts to enter "*n*", the number of trials and "*p*", the probability of success and press the ↓ to save to a list of your choice

7. Press CALC when you are done.
8. The calculator will take you to the list screen.
9. For Binomialpdf, the list is the probability for 0 through $n$ at exactly that random variable.
10. For Binomialcdf, the list is the **<u>cumulative</u>** probability for 0 through $n$ at that random variable.

## *To calculate a p-value for the Normal Distribution*