

Examples on some the excel functions

1- Math & Trig functions

| No | Function | syntax | Description | Examples |
|----|----------|-------------|--|---------------------------|
| 1 | ABS | ABS(number) | Evaluate the absolute value of a number | Abs(6) = 6 Abs(-5) = 5 |
| 2 | Combin | Combin(n;x) | Calculate the binomial coefficients $\binom{n}{x}$ | Combin(5;3)=10 |
| 3 | | | | |
| 4 | | | | |

2-Statistical functions

| No | Function | syntax | Description | Examples |
|----|----------|---|---|--------------------------------------|
| 1 | Average | average(a1; a2; ... an) | Calculate the mean of a1, a2,an | AVERAGE(1,8,9,2)=5 |
| 2 | normdist | Normdist(x; mean; standard deviation; cumulative) | Calculate the cumulative probability function on normal distribution with given mean and standard derivation) | Normdist(1.96; 0; 1; True) = 0.9750 |
| 3 | | | | |
| 4 | | | | |

2-Logical statements

| No | Function | syntax | Description | Examples |
|----|----------|--|---|---|
| 1 | If | If(logical test; statment1 if true; statement 2 if false) | If statement; do statement 1 if true, do statement 2 if false | Let x be a column of values 1, 2, 3. write the following statement in the first cell of the column y if(x2<=1; 1; 2). The output of the column y will be 1,2,3. |
| 2 | | | | |

Some other examples on the statistical functions

Examples

- 1- Calculate the mean, median, variance, standard deviation and mode(s) for the following data

2, 3, 2, 2, 0, 2, 3, 6, 3, 2, 2, 4, 3, 1, 3, 3, 3, 2, 1, 5

To achieve this in excel put the data in a column (A1:A20) or row and use the following commands

=AVERAGE(A1:A20)

=MEDIAN(A1:A20)

=STDEV.S(A1:A20)

=STDEV.P(A1:A20)

=VAR.P(A1:A20)

=VAR.S(A1:A20)

2- Frequency Table (Frequency-example)

3- Probability distributions

If $X \sim N(2, 7)$, then Calculate

$$P(X < 1.5), \quad f(3), \quad P(X < k) = 0.25, \quad k ?$$

Some other examples on the mathematical functions

Example

Calculate $\exp(-1.5)$, $\text{Log}(25)$ and $\ln(25)$

Example on the logical functions

Use if statement to print the status of the student ($\text{Pass} \geq 60$, $\text{fail} < 60$)

In creation exam using the following marks

Marks

70

85

83

25

80

98

80

72

42

If(A1<60,"F","P")

