

Spreadsheet Functions

December 1, 2025

Contents

1 Rounding Functions	3
1.1 ROUND	3
1.2 ROUNDUP	3
1.3 ROUNDDOWN	3
1.4 INT	4
2 Mathematical Functions	4
2.1 SIGN	4
2.2 ABS	5
2.3 POWER	5
2.4 LOG	5
2.5 LN	6
2.6 LOG10	6
2.7 EXP	6
2.8 SQRT	7
2.9 PI	7
2.10 SIN	7
2.11 COS	7
2.12 RADIANS	7
2.13 DEGREES	8
2.14 ISNUMBER	8
2.15 ISEVEN	8
2.16 ISODD	8
2.17 ISBLANK	9
2.18 BASE	9
3 Statistical Functions	10
3.1 MIN	10
3.2 MAX	10
3.3 VAR	10
3.4 STDEV	10
3.5 SUM	11
3.6 PRODUCT	11

3.7	AVERAGE	11
3.8	COUNT	12
3.9	MEDIAN	12
3.10	PERCENTILE	12
3.11	QUARTILE	13
3.12	SKEW	15
3.13	CORREL	15
3.14	FACT	16
3.15	COMBIN	16
3.16	SUMSQ	16
4	Logical Functions	16
4.1	AND	16
4.2	OR	17
4.3	NOT	17
4.4	XOR	17
4.5	IF	18
4.5.1	IF...ELSEIF...ELSEIF...ELSE	18
4.5.2	How many real roots?	19
4.5.3	How is the weather outside?	19
5	Random Numbers	20
5.1	RAND	20
5.2	RANDBETWEEN	20
6	Date and Time Functions	21
6.1	NOW	21
6.2	YEAR	21
6.3	MONTH	21
6.4	DAY	21
6.5	HOUR	21
6.6	MINUTE	22
6.7	SECOND	22
7	String Functions	22
7.1	CHAR	22
7.2	CODE	22
7.3	UNICODE	22
7.4	UNICHAR	23
7.5	LOWER	23
7.6	UPPER	23
7.7	CONCATENATE	23
7.8	LEFT	24
7.9	RIGHT	24
7.10	MID	24
7.11	LEN	24

7.12	ISTEXT	24
7.13	ISNONTEXT	25
7.14	REPLACE	25
7.15	SEARCH	25

1 Rounding Functions

1.1 ROUND

	A	B	C	D	E	F
1	=ROUND(1.1234,3)					
2						

1.123

	A	B	C	D	E	F
1	=ROUND(1.1237,3)					
2						

1.124

1.2 ROUNDUP

	A	B	C	D	E	F
1	=ROUNDUP(1.1234,3)					
2						

1.124

	A	B	C	D	E	F
1	=ROUNDUP(1.1237,3)					
2						

1.124

1.3 ROUNDDOWN

	A	B	C	D	E	F
1	=ROUNDDOWN(1.1234,3)					
2						

1.123

	A	B	C	D	E	F
1		=ROUNDDOWN(1.1237,3)				
2						

1.123

1.4 INT

	A	B	C	D	E	F
1		=INT(1.1234)				
2		=INT(100.99)				

$\frac{1}{100}$

2 Mathematical Functions

2.1 SIGN

	A	B	C	D	E	F
1		=SIGN(16)				
2						

1

	A	B	C	D	E	F
1		=SIGN(-8)				
2						

-1

	A	B	C	D	E	F
1		=SIGN(0)				
2						

0

2.2 ABS

	A	B	C	D	E	F
1		=ABS(-25)				
2						

25

	A	B	C	D	E	F
1		=ABS(25)				
2						

25

2.3 POWER

	A	B	C	D	E	F
1		=POWER(2; 3)				
2						

8

	A	B	C	D	E	F
1		=POWER(10; 4)				
2						

10000

2.4 LOG

	A	B	C	D	E	F
1		=LOG(1000)				
2						

3

	A	B	C	D	E	F
1		=LOG(8; 2)				
2						

3

5

2.5 LN

	A	B	C	D	E	F
1		=LN(2,71828)				
2						

0.999999327347282

	A	B	C	D	E	F
1		=LN(EXP(1))				
2						

1

2.6 LOG10

	A	B	C	D	E	F
1		=LOG10(1000))				
2						

3

2.7 EXP

$$EXP(x) = e^x$$

	A	B	C	D	E	F
1		=EXP(1)				
2						

2.71828182845905

	A	B	C	D	E	F
1		=LN(EXP(2))				
2						

2

2.8 SQRT

	A	B	C	D	E	F
1		=SQRT(16)				
2						

4

2.9 PI

	A	B	C	D	E	F
1		=PI()				
2						

3.14159265358979

2.10 SIN

	A	B	C	D	E	F
1		=SIN(PI()/2)				
2						

1

2.11 COS

	A	B	C	D	E	F
1		=COS(2 * PI())				
2						

1

2.12 RADIANS

	A	B	C	D	E	F
1		=RADIANS(90)				
2						

1.5707963267949

2.13 DEGREES

	A	B	C	D	E	F
1		=DEGREES(PI()/2)				
2						

90

2.14 ISNUMBER

	A	B	C	D	E	F
1	8	=ISNUMBER(A1)				
2						

TRUE

	A	B	C	D	E	F
1	Cat	=ISNUMBER(A1)				
2						

FALSE

2.15 ISEVEN

	A	B	C	D	E	F
1	8	=ISEVEN(A1)				
2						

TRUE

	A	B	C	D	E	F
1	9	=ISEVEN(A1)				
2						

FALSE

2.16 ISODD

	A	B	C	D	E	F
1	8	=ISODD(A1)				
2						

FALSE

	A	B	C	D	E	F
1	9	=ISODD(A1)				
2						

TRUE

2.17 ISBLANK

	A	B	C	D	E	F
1		=ISBLANK(A1)				
2						

TRUE

	A	B	C	D	E	F
1	Cats	=ISBLANK(A1)				
2						

FALSE

2.18 BASE

	A	B	C	D	E	F
1		=BASE(16; 2; 8)				
2		=BASE(255, 2; 8)				
3		=BASE(3; 2; 8)				

00010000

11111111

00000011

3 Statistical Functions

3.1 MIN

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=MIN(A1:A4)					

5

3.2 MAX

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=MAX(A1:A4)					

12

3.3 VAR

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=VAR(A1:A4)					

10.91666666666667

3.4 STDEV

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=STDEV(A1:A4)					

10

3.30403793359984

3.5 SUM

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=SUM(A1:A4)					

35

3.6 PRODUCT

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=PRODUCT(A1:A4)					

4620

3.7 AVERAGE

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=AVERAGE(A1:A4)					

8.75

3.8 COUNT

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=COUNT(A1:A4)					

4

3.9 MEDIAN

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=MEDIAN(A1:A4)					

9.0

3.10 PERCENTILE

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=PERCENTILE(A1:A4; 0)					

5

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=PERCENTILE(A1:A4; 1)					

12

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=PERCENTILE(A1:A4; 0.5)					

9

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=PERCENTILE(A1:A4; 0.25)					

6.5

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=PERCENTILE(A1:A4; 0.75)					

11.25

3.11 QUARTILE

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=QUARTILE(A1:A4; 0)					

5

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=QUARTILE(A1:A4; 1)					

6.5

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=QUARTILE(A1:A4; 2)					

9

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=QUARTILE(A1:A4; 3)					

11.25

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=QUARTILE(A1:A4; 4)					

12

3.12 SKEW

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=SKEW(A1:A4)					

-0.592518588276328

	A	B	C	D	E	F
1	5					
2	7					
3	12					
4	11					
5	=KURT(A1:A4)					

-3.86900530272129

3.13 CORREL

	A	B	C	D	E	F
1	5	10				
2	7	14				
3	12	24				
4	11	22				
5	=CORREL(A1:A4; B1:B4)					

1

	A	B	C	D	E	F
1	5	22				
2	7	24				
3	12	14				
4	11	10				
5	=CORREL(A1:A4; B1:B4)					

-0.862595419847328

3.14 FACT

	A	B	C	D	E	F
1	=FACT(5)					
2						

120

3.15 COMBIN

	A	B	C	D	E	F
1	=COMBIN(5; 2)					
2						

$$nCr = \frac{n!}{r!(n-r)!} = \frac{5!}{2!(5-2)!} = \frac{5 \times 4 \times 3!}{2 \times 1 \times 3!} = \frac{20}{2} = 10$$

10

3.16 SUMSQ

	A	B	C	D	E	F
1	1					
2	2					
3	3					
4	4					
5	=SUMSQ(A1:A4)					

30

4 Logical Functions

4.1 AND

	A	B	C	D	E	F
1		TRUE	FALSE			
2		TRUE	TRUE			
3		FALSE	FALSE			
4		=AND(B1:C1)				
5		=AND(B2:C2)				
6		=AND(B3:C3)				

FALSE
TRUE
FALSE

4.2 OR

	A	B	C	D	E	F
1		TRUE	FALSE			
2		TRUE	TRUE			
3		FALSE	FALSE			
4		=OR(B1:C1)				
5		=OR(B2:C2)				
6		=OR(B3:C3)				

TRUE
TRUE
FALSE

4.3 NOT

	A	B	C	D	E	F
1		TRUE				
2		TRUE				
3		FALSE				
4		=NOT(B1)				
5		=NOT(B2)				
6		=NOT(B3)				

FALSE
FALSE
TRUE

4.4 XOR

	A	B	C	D	E	F
1		TRUE	FALSE			
2		TRUE	TRUE			
3		FALSE	TRUE			
4		FALSE	FALSE			
5		=XOR(B1:C1)				
6		=XOR(B2:C2)				
7		=XOR(B3:C3)				

```

TRUE
FALSE
TRUE
FALSE

```

4.5 IF

	A	B	C	D	E	F
1	5	6	12	-1	10	
2	=IF(A1 = 5; TRUE; FALSE)					
3	=IF(AND(A1 >= 5; SIGN(D1) = -1); "YES"; "NO")					
4	=IF(AND(A1 = 5; B1 = 6; C1 > 5); "YES"; "NO")					
5	=IF(A1 < 0; "NEG"; IF(A1 = 0; "ZERO"; "POS"))					
6						
7						

```

TRUE
YES
YES
POS

```

4.5.1 IF...ELSEIF...ELSEIF...ELSE

	A	B	C	D	E	F
1	5	22				
2	7	24				

Write an IF statement to handle this situation:

- If the value in A1 is less than 10, return "LOW"
- If the value in A1 is between 10 and 20 (inclusive), return "MEDIUM"
- If the value in A1 is between 21 and 30 (inclusive), return "HIGH"
- If the value in A1 is greater than 30, return "VERY HIGH"

```

=IF(A1 < 10; "LOW";
  IF(AND(A1 >= 10; A1 <= 20); "MEDIUM";
    IF(AND(A1 >= 21; A1 <= 30); "HIGH";
      "VERY HIGH")))

```

A shorter version:

```
=IF(A1 < 10; "LOW";
    IF(A1 <= 20; "MEDIUM";
        IF(A1 <= 30; "HIGH";
            "VERY HIGH")))
```

The answer is

LOW

Use IFS function (if your Excel supports it):

```
=IFS(A1 < 10; "LOW";
      AND(A1 >= 10; A1 <= 20); "MEDIUM";
      AND(A1 >= 21; A1 <= 30); "HIGH";
      A1 > 30; "VERY HIGH")
```

4.5.2 How many real roots?

	A	B	C	D	E	F
1	-1	5	100			
2	=POWER(B1; 2) - 4 * A1 * C1					

Write an IF statement (indeed they are expressions in Excel) to determine how many real roots the quadratic equation $Ax^2 + Bx + C = 0$ has, based on the values in A1, B1, and C1. Return 0 (No real roots), 1 (repeated root), or 2 (two real roots).

```
=IF(B2 < 0; 0;
    IF(B2 = 0; 1; 2))
```

Use IFS function (if your Excel supports it):

```
=IFS(B2 < 0; 0;
      B2 = 0; 1;
      B2 > 0; 2)
```

4.5.3 How is the weather outside?

Suppose that the temperature is in cell A1 (in degrees Celsius). Write an IF statement to return the following:

- If the temperature is less than or equal to 0, return "Freezing"
- If the temperature is greater than 0 but less than or equal to 15, return "Cold"
- If the temperature is greater than 15 but less than or equal to 25, return "Warm"

- If the temperature is greater than 25 but less than or equal to 35, return "Hot"
- If the temperature is greater than 35, return "Too Hot"

```
=IF(A1 <= 0; "Freezing";
    IF(A1 <= 15; "Cold";
        IF(A1 <= 25; "Warm";
            IF(A1 <= 35; "Hot";
                "Too Hot"))))
```

Use IFS function (if your Excel supports it):

```
=IFS(A1 <= 0; "Freezing";
      A1 <= 15; "Cold";
      A1 <= 25; "Warm";
      A1 <= 35; "Hot";
      A1 > 35; "Too Hot")
```

5 Random Numbers

5.1 RAND

	A	B	C	D	E	F
1	=RAND()					
2						

```
// A random number between 0 and 1, e.g.  
0.5432101234
```

5.2 RANDBETWEEN

	A	B	C	D	E	F
1	=RANDBETWEEN(1; 10)					
2						

```
// A random integer between 1 and 10, e.g.  
// The range is inclusive, so 1 and 10 are possible outputs  
7
```

6 Date and Time Functions

6.1 NOW

	A	B	C	D	E	F
1		=NOW()				
2						

01/12/25 08:10 PM

6.2 YEAR

	A	B	C	D	E	F
1		01/12/25 08:10 PM				
2		=YEAR(B1)				

2025

6.3 MONTH

	A	B	C	D	E	F
1		01/12/25 08:10 PM				
2		=MONTH(B1)				

12

6.4 DAY

	A	B	C	D	E	F
1		01/12/25 08:10 PM				
2		=DAY(B1)				

1

6.5 HOUR

	A	B	C	D	E	F
1		01/12/25 08:10 PM				
2		=HOUR(B1)				

20

21

6.6 MINUTE

	A	B	C	D	E	F
1		01/12/25 08:10 PM				
2		=MINUTE(B1)				

10

6.7 SECOND

	A	B	C	D	E	F
1		01/12/25 08:10 PM				
2		=SECOND(B1)				

50

7 String Functions

7.1 CHAR

	A	B	C	D	E	F
1		=CHAR(65)				
2						

A

7.2 CODE

	A	B	C	D	E	F
1		=CODE("B")				
2						

66

7.3 UNICODE

	A	B	C	D	E	F
1		=UNICODE("😊 ")				
2						

9786

7.4 UNICHAR

	A	B	C	D	E	F
1		=UNICHAR(9786)				
2						

Output: 😊

7.5 LOWER

	A	B	C	D	E	F
1		istanBUL				
2		=LOWER(B1)				

istanbul

7.6 UPPER

	A	B	C	D	E	F
1		istanBUL				
2		=UPPER(B1)				

ISTANBUL

7.7 CONCATENATE

	A	B	C	D	E	F
1		İstanbul	University			
2		=CONCATENATE(B1; C1)				

IstanbulUniversity

	A	B	C	D	E	F
1		İstanbul	University			
2		=CONCATENATE(B1;" "; C1)				

Istanbul University

7.8 LEFT

	A	B	C	D	E	F
1		İstanbul	University			
2		=LEFT(B1; 3)				

Ist

7.9 RIGHT

	A	B	C	D	E	F
1		İstanbul	University			
2		=RIGHT(B1; 3)				

bul

7.10 MID

	A	B	C	D	E	F
1		İstanbul	University			
2		=MID(B1; 6; 3)				
3		=MID(C1; 5; 2)				

bul
er

7.11 LEN

	A	B	C	D	E	F
1		İstanbul	University			
2		=LEN(B1)				
3		=LEN(C1)				

8
10

7.12 ISTEXT

	A	B	C	D	E	F
1		İstanbul	1453			
2		=ISTEXT(B1)				
3		=ISTEXT(C1)				

TRUE
FALSE

7.13 ISNONTEXT

	A	B	C	D	E	F
1		İstanbul	1453			
2		=ISNONTEXT(B1)				
3		=ISNONTEXT(C1)				

FALSE
TRUE

7.14 REPLACE

	A	B	C	D	E	F
1		İstanbul				
2		=REPLACE(A1; 4; 2; "")				
3		=REPLACE(A1; 3; 5; "?")				

Is*bul
Is?l

7.15 SEARCH

	A	B	C	D	E	F
1		İstanbul				
2		=SEARCH("bul"; A1)				
3		=SEARCH("tan"; A1)				
4		=SEARCH("something"; A1)				

6
3
#VALUE!