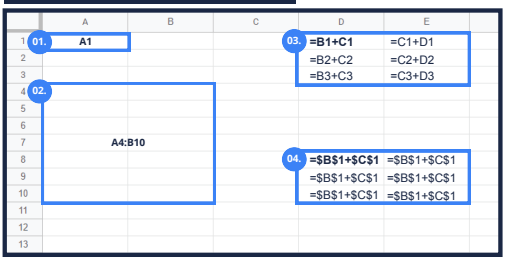
An introduction to using data

Reference card

Cell referencing



01. **Cell reference:**
Address that identifies a cell by referring to it's column letter and row number.

02. **Range:**
Address using two cell references separated by a colon.

03. **Relative reference:**
Reference that changes when copied across multiple cells based on the relative position of rows and columns.

04. **Absolute reference:**
Reference that does not change when copied across multiple cells.

Useful functions

01. Arithmetic mean

```
=AVERAGE(value1, [value2, ...])
=AVERAGEA(value1, [value2, ...])
```

Divide sum of values by number of arguments. **AVERAGEA** evaluates Boolean and text while **AVERAGE** ignores them.

Ex.
```
=AVERAGE(1,2,3) => 2
=AVERAGEA(1,TRUE) => 1
```

Power 02.

```
=POW(base, exponent)
=POWER(base, exponent)
```

Calculate the value of a number (base) raised to a certain exponent.

```
=POW(2, 3) => 8
=POWER(2, 3) => 8
```
Ex.

03. Square root

```
=SQRT(value)
```

Calculates the square root of a given number.

Ex.
```
=SQRT(4) => 2
```

Modulus 04.

```
=MOD(dividend, divisor)
```

Divides a number and gives the remainder as an answer.

```
=MOD(42363.33,100) =>63.33
```
Ex.

05. Rounding up

```
=CEILING(value, [factor])
=ROUNDUP(value, [places])
```

CEILING rounds up to nearest integer multiple of the specified factor. **ROUNDUP** rounds up to a number of decimal places.

Ex.
```
=CEILING(18.25,2) => 20
=ROUNDUP(18.25,2) => 18.25
```

Rounding down 06.

```
=FLOOR(value, [factor])
=ROUNDDOWN(value,[places])
```

FLOOR rounds down to the nearest multiple of the factor while **ROUNDDOWN** rounds down to a number of decimal places.

```
=FLOOR(42363.33, 2) => 42362
=ROUNDDOWN(42363.33, 2) => 42363.33
```
Ex.

```
=CEILING.PRECISE(value, [factor])
=CEILING.MATH(value,[factor],[mode])
```

Round up to the nearest integer or multiple of the specified factor. **CEILING.MATH** also specifies whether the number is rounded toward or away from zero.

Ex.
```
=CEILING.PRECISE(-18.25, 2) => -18
=CEILING.MATH(-18.25, 2, -1) => -20
```

```
=FLOOR.PRECISE(value, [factor])
=FLOOR.MATH(value, [factor], [mode])
```

Round down to the nearest integer or multiple of the specified factor. **FLOOR.MATH** also specifies whether the number is rounded down toward or away from zero.

```
=FLOOR.PRECISE(-42363.33, 2) => -42364
=FLOOR.MATH(-42363.33, 2,-1) => -42362
```
Ex.