Read the grid.

Military Grid Reference System / A compact coordinate-reading reference

18T	WL	85372	11523
GRID ZONE	100 KM SQUARE	EASTING	NORTHING

Example: **18T WL 85372 11523**. Spaces separate parts; keep the full zone and square.

01 Read right, then up.

Easting first, northing second. Keep both numeric halves equally long, including leading zeros. Here, **18** is the UTM zone and **T** its latitude band.

The band letter is not a hemisphere flag: MGRS band **S** does not mean southern hemisphere. These examples use the UTM portion of MGRS; polar MGRS uses UPS.

02 Choose the size of the square.

Count only easting + northing digits, not the zone or square letters.

DIGITS	SAME REFERENCE, SHORTENED	SQUARE SIZE
4 (2 + 2)	`18T WL 85 11`	1 km x 1 km
6 (3 + 3)	`18T WL 853 115`	100 m x 100 m
8 (4 + 4)	`18T WL 8537 1152`	10 m x 10 m
10 (5 + 5)	`18T WL 85372 11523`	1 m x 1 m

To retain the containing square, truncate each numeric half. Remove digits from the right of the easting and the northing; do not round into a neighboring square. [2]

03 Check the position, not just the digits.

Precision is not GPS accuracy.
Ten digits identify a 1 m square. They do not prove a position within 1 m. Check the reported accuracy and age of the location fix; receiver and surroundings affect it. [3]

Before using a reference
Confirm format and map datum. Read the full coordinate back. Check offline map coverage and the bearing reference. Carry an independent navigation reference.

Datum matters. Match the coordinate to its source map. Red Grid's web converter uses WGS84; it does not transform older map datums. Old NAD27 grid-square lettering can differ. [1]

SOURCES / REVIEWED 11 NOVEMBER 2026

[1] Esri ArcGIS Pro, Supported notation formats (UTM and MGRS): https://doc.esri.com/en/arcgis-pro/latest/tool-reference/data-management/supported-notation-formats.html

[2] FGDC, USNG standard, Annex B: https://www.fgdc.gov/standards/projects/usng/fgdc_std_011_2001_usng.pdf

[3] GPS.gov, GPS Accuracy: https://www.gps.gov/gps-accuracy

Educational examples. Not a field exercise, map, survey certification or government endorsement.

Four checks. Then compare.

Cover the answer key with another sheet. Write your answers, then uncover and compare.
These are reading exercises, not directions to a field location.

01

Name each part.

For `18T WL 85372 11523`, identify the grid zone, 100 km square, easting and northing.

02

Shorten without moving squares.

Reduce `18T WL 85372 11523` to a six-digit reference that keeps the containing square. What size is that square?

03

Keep the leading zero.

Split `18T WL 01123 11523` into its easting and northing. Can the first zero be removed?

04

Separate precision from accuracy.

A phone shows a ten-digit MGRS coordinate and reported accuracy of **+/- 12 m**. Does the coordinate establish accuracy within 1 m? Explain.

ANSWER KEY

01 Zone `18T`; square `WL`; easting `85372`; northing `11523`.

02 `18T WL 853 115`. Three digits in each half identify a **100 m x 100 m** square. Truncate both halves; do not round.

03 Easting `01123`; northing `11523`. **Keep the zero** so both halves retain five digits.

04 No. Ten digits describe a 1 m square. The phone's reported +/- 12 m accuracy is a separate estimate, not a guarantee of the true error.

Practice again with the guide and free browser converter:

redgridtactical.com/what-is-mgrs | redgridtactical.com/tools