

# AutoCAD® cheat sheet

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Up-to-date with AutoCAD 2023 (some commands may not work with previous versions). Last revision: October 18, 2022.


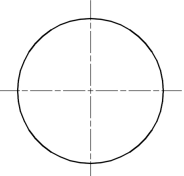
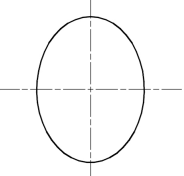
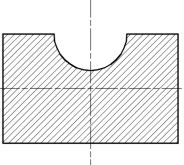
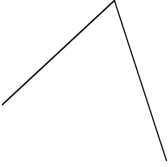
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## 1. Reference systems and coordinate insertion

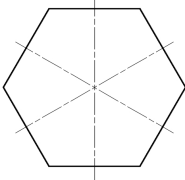
| Reference system | Insertion mode |                  |
|------------------|----------------|------------------|
|                  | Cartesian      | Polar            |
| Global (WCS)     | $*x,y$         | $*\rho < \theta$ |
| User (UCS)       | $x,y$          | $\rho < \theta$  |
| Local            | $@x,y$         | $@\rho < \theta$ |

## 2. Commands for creating graphical objects

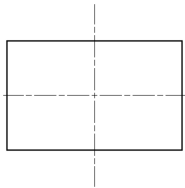
| Command               | Action   | Main parameters  |
|-----------------------|--|--|
| <code>_arc</code>     |  Creates a circular arc.                        | <b>C</b> : Accepts the centre as the first input (instead of the starting point).  |
| <code>_circle</code>  |  Creates a full circle.                        | <b>D</b> : Accepts the diameter instead of the radius.<br><b>3P</b> : Generates a circle based on three points.<br><b>2P</b> : Generates a circle based on two diametrically opposite points.<br><b>T</b> : Generates a circle tangent to three objects. |
| <code>_ellipse</code> |  Creates a full ellipse or an elliptical arc. | <b>A</b> : Generates an elliptical arc (instead of a full ellipse).<br><b>C</b> : Generates an ellipse or an elliptical arc starting from the centre.  |
| <code>_hatch</code>   |  Hatches a closed region                      |  |
| <code>_line</code>    |  Generates a single line or a polyline.       | <b>C</b> : Closes the polyline (only active when there the polyline has at least three points).  |



`_point`  Generates one point.

`_polygon`  Generates an inscribed or circumscribed regular polygon.

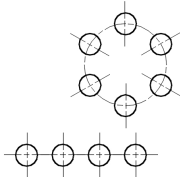
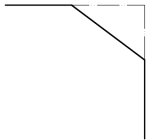
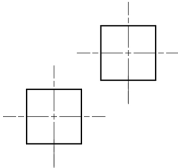
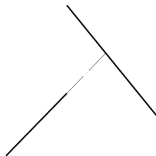
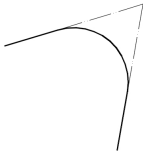
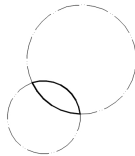
**C**: Generates a circumscribed polygon.  
**I**: Generates an inscribed polygon.

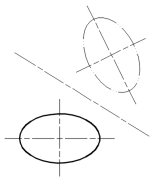
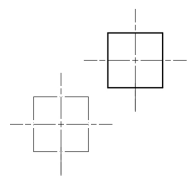
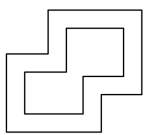
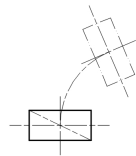
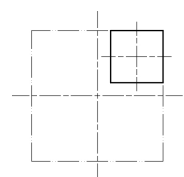
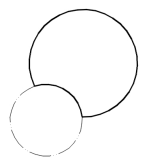
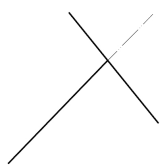
`_rectang`  Generates a rectangle.

**C**: Defines the dimensions of the chamfers (for a rectangle with chamfered vertices).  
**R**: Defines the radius of the fillets (for a rectangle with rounded vertices).  
**Q**: Defines the width and height of the rectangle.



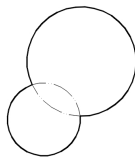
### 3. Commands for editing graphical objects

| Command                    |   | Action  | Main parameters  |
|----------------------------|---|---|--|
| <code>_arrayclassic</code> |    | Creates copies of objects along a linear or circular array.   |  |
| <code>_chamfer</code>      |    | Chamfers two rectilinear edges. The two edges (or their extensions) must intersect.   | <b>D</b> : Sets the chamfer distance from the intersecting point of the first and second object. The input order reflects the order whereby the entities are selected. |
| <code>_copy</code>         |    | Creates copies of objects.  | <b>S</b> : Sets the displacement vector  |
| <code>_erase</code>        |   | Deletes the selected objects (same effect as pressing <b>[Cancel]</b> ).  |  |
| <code>_explode</code>      |   | Splits an object into separate parts (opposite effect than <code>_join</code> ).  |  |
| <code>_extend</code>       |  | Extends objects to meet the edges of other objects.   |  |
| <code>_fillet</code>       |  | Fillets the edges of two 2D objects by creating an arc of given radius. The two edges (or their extensions) must intersect                              | <b>RA</b> : Sets the fillet radius.  |
| <code>_intersect</code>    |  | Returns the intersection (Boolean AND) between two closed objects. The objects must be previously converted into regions through <code>_region</code> . |  |

|                        |   |   |   |
|------------------------|---|---|---|
| <code>_join</code>     |   | Joins lines, polylines, splines and adjacent arcs (opposite effect than <code>_explode</code> ).  |   |
| <code>_mirror</code>   |    | Mirrors objects across a given axis.  | <b>N</b> : Keeps the source objects (creates a copy).<br><b>S</b> : Removes the source objects. |
| <code>_move</code>     |    | Moves objects.  | <b>S</b> : Sets the displacement vector.  |
| <code>_offset</code>   |    | Offsets an object at a specified distance.  |   |
| <code>_rotate</code>   |   | Rotates objects.  | <b>C</b> : Keeps the original objects (creates a copy).   |
| <code>_scale</code>    |  | Applies a scale transform.  | <b>C</b> : Keeps the original objects (creates a copy).   |
| <code>_subtract</code> |  | Returns the difference (Boolean XOR) between two closed objects. The objects must be previously converted into regions through <code>_region</code> . |   |
| <code>_trim</code>     |  | Trims objects to meet the edges of other objects.   |   |

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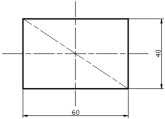
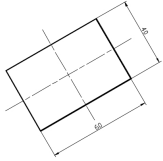
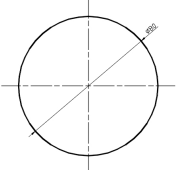

`_union`





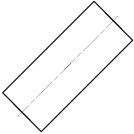
Returns the union (Boolean OR) between two closed objects. The objects must be previously converted into regions through `_region`.

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**4. Commands for inserting dimensions and managing their style**

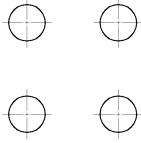
| Command                   | Action  | Main parameters   |
|---------------------------|---|---|
| <code>_dimlinear</code>   |  A diagram showing a rectangle with a horizontal dimension line below it, labeled '60', and a vertical dimension line to its right, labeled '40'. The dimension lines are parallel to the rectangle's edges. | Creates a linear dimension parallel to one of the axes of the UCS.                        |
| <code>_dimaligned</code>  |  A diagram showing a rectangle rotated at an angle. Two dimension lines are shown: one aligned with the longer side of the rectangle, labeled '60', and another aligned with the shorter side, labeled '40'. | Creates a linear dimension that is aligned with the origin points of the extension lines. |
| <code>_dimdiameter</code> |  A diagram of a circle with a horizontal centerline and a vertical centerline. A dimension line is drawn across the circle, passing through the center, with a diameter symbol (ϕ) at its end.               | Creates a diameter dimension with a diameter symbol ( $\phi$ ) in front of it.            |
| <code>_dimradius</code>   |  A diagram of a quarter-circle arc. A dimension line is drawn from the center of the arc to the arc itself, with a radius symbol (R) at its end.  | Creates a radius dimension with a radius symbol (R) in front of it.                       |
| <code>_dimstyle</code>    |   | Opens the window that allows to manage the dimension style.                               |

## 5. Commands for inserting text and annotations

| Command   | Action   | Principali parametri  |
|---|--|---|
| <code>_mtext</code><br><br>Testo<br>multilinea  | Inserts multi-line text.                                   | <b>H</b> : Specifies the text height.<br><b>J</b> : Sets text justification and flow in relation to the text boundary (see <code>_text</code> ).<br><b>W</b> : Specifies the width of the text boundary.  |
| <code>_qleader</code><br><br>      | Creates a leader and leader annotation.                    |   |
| <code>_text</code><br><br>Testo   | Inserts single-line text.                                  | <b>J</b> : Sets text justification and flow in relation to the text boundary. Possible options: <ul style="list-style-type: none"><li><b>TL</b> (Top left)</li><li><b>TC</b> (Top centre)</li><li><b>TR</b> (Top right)</li><li><b>ML</b> (Middle left)</li><li><b>MC</b> (Middle centre)</li><li><b>MR</b> (Middle right)</li><li><b>BL</b> (Bottom left)</li><li><b>BC</b> (Bottom centre)</li><li><b>BR</b> (Bottom right)</li></ul> <b>W</b> Specifies the width of the text boundary; words wrap to fit the width. |
| <code>_tolerance</code><br><br>  | Creates symbols for geometric tolerances and datums.       |   |
| <code>_centerline</code><br><br> | Draws the axis between two parallel or non-parallel lines. |   |



`_centermark`



Draws the centre mark of a circle or arc.

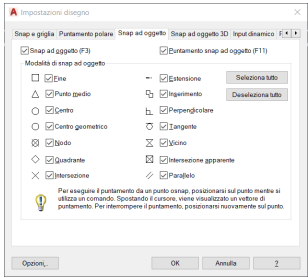
### 5.1. Inserting special characters

| Property name        | Symbol | AutoCAD sequence | Unicode sequence |
|----------------------|--------|------------------|------------------|
| Diameter             | ∅      | %%c              | \U+00B0          |
| Envelope requirement | Ⓔ      | –                | \U+24BA          |
| Degrees              | °      | %%d              | \U+2205          |
| Plus/minus           | ±      | %%p              | \U+00B1          |
| Square               | □      | –                | \U+25A1          |

### 5.2. Inserting special characters via *gdt* font

| Property name                | Symbol | AutoCAD sequence |
|------------------------------|--------|------------------|
| Diameter                     | ∅      | n                |
| Square                       | □      | o                |
| Counterbore                  | ⌊      | v                |
| Countersink                  | ∇      | w                |
| Deep/Depth                   | ⌵      | x                |
| Taper                        | ⤵      | y                |
| Maximum material requirement | Ⓜ      | m                |
| Minimum material requirement | Ⓛ      | l                |

# 6. Comandi per il controllo del sistema, dell'interfaccia utente e delle proprietà degli oggetti























| Comando                     | Funzione   | Principali parametri  |
|-----------------------------|--|---|
| <code>_dynmode</code>       | Attiva/disattiva la modalità input dinamico.   | <b>1</b> : attiva la modalità input dinamico.<br><b>0</b> : disattiva la modalità input dinamico.                                       |
| <code>_layer</code>         | Apri la finestra che permette la creazione, rimozione e modifica delle proprietà dei layer.                      |   |
| <code>_matchprop</code>     | Assegna ad uno o più oggetti le proprietà dell'oggetto sorgente (equivalente a copia formato di Microsoft Word). |   |
| <code>_navbardisplay</code> | Attiva/disattiva la visualizzazione della barra di navigazione.  | <b>1</b> : attiva la visualizzazione della barra di navigazione.<br><b>0</b> : disattiva la visualizzazione della barra di navigazione. |
| <code>_orthomode</code>     | Attiva/disattiva la modalità disegno ortogonale.   | <b>1</b> : attiva la modalità disegno ortogonale.<br><b>0</b> : disattiva la modalità disegno ortogonale.                               |
| <code>_osnap</code>         | Apri la finestra che permette la gestione degli snap ad oggetto.   |   |
| <code>_polarmode</code>     | Attiva/disattiva la modalità disegno ad angoli predefiniti.  | <b>1</b> : attiva la modalità disegno ad angoli predefiniti.<br><b>0</b> : disattiva la modalità disegno ad angoli predefiniti.         |



|                       |   |  |
|-----------------------|---|--|
| <code>_ptype</code>   | Attiva la finestra per la modifica dello stile punti  |    |
| <code>_qselect</code> | Attiva la finestra di selezione rapida di oggetti   |    |
| <code>_regen</code>   | Rigenera l'intero disegno. Ricalcola le posizioni e la visibilità di tutti gli oggetti contenuti nella finestra corrente.             |  |
| <code>_redraw</code>  | Rigenera la visualizzazione nella finestra corrente.  |  |
| <code>_ucs</code>     | Sposta il sistema di riferimento utente (UCS).  |  |
| <code>_ucsicon</code> | Attiva/disattiva la visualizzazione del sistema di riferimento utente (UCS).  | <div><b>ON</b> : visualizza l'icona UCS.<br/><b>OF</b> : disattiva la visualizzazione dell'icona UCS.<br/><b>OR</b> : visualizza l'icona in corrispondenza dell'origine (0,0,0) dell'UCS corrente.</div> |
| <code>_units</code>   | Permette di impostare le unità di misura del disegno e la precisione (numero di cifre decimali) delle dimensioni lineari ed angolari. |  |



## 7. Principali scorciatoie da tastiera

| Tasto   | Funzione/i  |
|---|---|
|    | Cancella gli oggetti selezionati.   |
|  +      | Attiva/disattiva lo snap a griglia.   |
|  +      | Apri un disegno esistente.  |
|  +      | Chiude il programma.  |
|  +      | Elimina l'ultima operazione eseguita.   |
|  +      | Ripristina l'ultima operazione eseguita (annulla l'annullamento).   |
|  +      | Visualizza/nasconde la riga dei comandi.  |
|    | Esce da un comando.<br>Deseleziona tutti gli oggetti selezionati.   |
|    | Termina un comando, l'inserimento di un parametro o la selezione di oggetti all'interno di un comando.<br>Ripete l'ultimo comando eseguito. |
|    | Attiva/disattiva gli snap ad oggetto.   |
|    | Attiva/disattiva la modalità di disegno 'ortogonale'.   |
|    | Attiva/disattiva la modalità di disegno 'puntamento polare'.  |
|    | Attiva/disattiva il puntamento ad oggetto (linee di riferimento).   |
|    | Attiva/disattiva la modalità di 'input dinamico'.   |
|  ,  | Premuto assieme al tasto sinistro del mouse permette di rimuovere (deselezionare) uno o più oggetti da un insieme di selezione.             |