

Calculates area, perimeter and centre of gravity of a polygon given vertexes in whatever their order may be. In case of one or more points inside the polygon the program calculates also the barycentre of all the points.

Just enter **cvpolyg(matrix)** where *matrix* is a N-rows-2-columns matrix of the points you want to analyse.

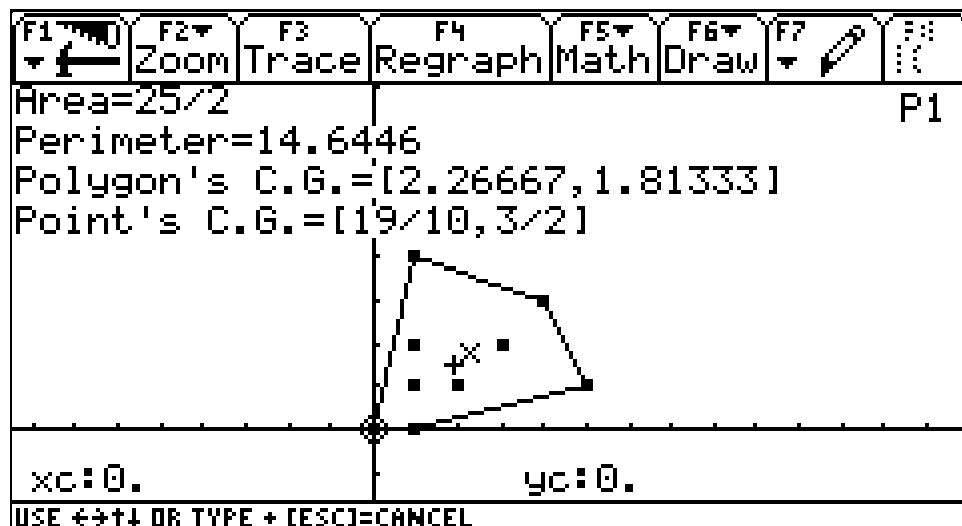
Example: I want to analyse the following points

$P_1=(1,1)$ $P_2=(1,0)$ $P_3=(0,0)$ $P_4=(2,1)$ $P_5=(1,4)$
 $P_6=(1,1)$ $P_7=(1,2)$ $P_8=(4,3)$ $P_9=(3,2)$ $P_{10}=(5,1)$

The *matrix* of the points is:

$$matrix = \begin{bmatrix} 1 & 1 \\ 1 & 0 \\ 0 & 0 \\ 2 & 1 \\ 1 & 4 \\ 1 & 1 \\ 1 & 2 \\ 4 & 3 \\ 3 & 2 \\ 5 & 1 \end{bmatrix}$$

so I enter **cvpolyg(matrix)**. Observe that I entered points in a casual order:



If the screen can't contain all data don't worry: they are stored like plots:

All points: Plot 1

Perimeter points: Plot 2

Centre of gravity: Plot 3

Point Barycentre: Plot 4

This program has been already used many times without problems. If you find any bug first assure you to have selected the English language in the Mode and not to have translated the code with any program. If the problem persists, please, let me know.

For a better and faster answer, please, enclose some screenshot of the bug: entered inputs, expected outputs, error messages, erroneous code line, Mode setting... it will help me very much!

My address is paolosilingardi@interfree.it; write **TI-Program** as Object of e-mail!

**IN ORDER TO PREVENT SPAMMING, E-MAIL WITHOUT THE CORRECT OBJECT
WILL BE AUTOMATICALLY DELETED!**

You can find all my programs at this address:

<http://www.ticalc.org/archives/files/authors/44/4458.html>.

Remember to vote this program in the site!

Paolo Silingardi