

ANIFIG

Animating Plane Figures Using Linear Transformations and Translations

Use in the form ==> **anifig** <==

INPUT: An expression to define a plane figure.
This can be in the form of parametric equations

$$\begin{aligned}x(t) &= \text{expression in variable } t \\y(t) &= \text{expression in variable } t\end{aligned}$$

and then an interval for the values of the parameter t .

Alternatively you can enter a set of points that define a polygonal region as follows:

$$\begin{aligned}x(t) &= \text{x-coordinates between square brackets [...]} \\y(t) &= \text{y-coordinates between square brackets [...]} \end{aligned}$$

and then any interval for the values of the parameter t .

OPERATIONS: Click the appropriate button for a
LINEAR TRANSFORMATION or a TRANSLATION

For a linear transformation enter a 2 by 2 matrix. Note for rotations the angle argument for the sine and cosine functions must be in radians. All rotations are about the origin.

For a translation enter 2 elements in a 3 by 3 matrix which is in a form consistent for use with homogeneous coordinates.

OUTPUT: By clicking the SKETCH and MAP button a graph of the original figure will be shown, followed by the mapping action defined by your choice of operations, and then the final image.

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FOLLOW THE DIRECTIONS WHICH APPEAR ON THE SCREEN.
If you click a button and no action takes place, it is highly likely you typed some input field improperly. In particular the PARAMETER MUST BE t .
In such a case click on RESTART.

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WARNING: This routine uses or calls a number of other MATLAB routines:
anidecide, animappingnew, animappingtran, animappingrot,
animaptranslation, mat2strh

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