| The PyM graphic functions are based on the Python matplotlib pyplot package, which is loaded as plt. | |
|---|---|
| | |
| **Function signature** | **Description** |
| ruler(A, B, lw=1, dashing=-, color=k, left_inc=10, right_inc=10) | Draws a segment of the line AB that amounts to a prolongation of the segment [A,B] at both ends. By default, the prolongations are both a tenth of the length of the segment [A,B], but they can be set independently to any desired percent. The default linewidth is 1 point, the line is continuous, and the color is black. To draw a dashed ruler, include dashing=-- in the call. |
| seg(A, B, lw=1, dashing=-, color=k) | Draws a segment [A,B]. The default linewidth is 1 point, the line is continuous, and the color is black. To draw a dashed segment, include dashing=-- in the call. |
| lable(A, Text, fs=18, dx=0, dy=0, color=k) | Affixes Text, given as a string, at the point A. The default font size is 18 and the default color is black. The text can be offset by giving values to dx and dy. |
| ispair(X) | Checks whether *X* is a pair (a point in the plane) |
| rad(x), deg(t) | x· pi/180, equivalent en radians de xº, i equivalent en º de t radiants. |
| point(A ,B=None, t=None) | - If A and B are points and t a real number, it returns the point A+t(B-A) on AB.<br>- If A is a point, B and t real numbers, it returns the point on the circumference with center A, radius B, at angle t.<br>- If only A is supplied and A is a complex number, it return the point corresponding to A. |
| mid_point(A,B) | The mid point of the segment [A,B], i.e. point(A,B,1/2). |
| arg(X) | The argument of point X relative to the origin. |
| distance(A,B) | The distance from A to B. It agrees with the norm \|B-A\|. |
| end_chord(K,X,h) | If K = [O,r] is the circle of radius r, centered at the origin O, and X is a point on K, this function returs the end point Y of the chord XY of length h, in the counterclockwise sense. |
| dot(a,b) | The dot product a·b |
| normsq(x), norm(x) | x·x =) \|x\|**,  \|x\| |
| versor(v) | v/\|v\| |
| vdir(A,B) | B-A |
| proj(X,A,B) | Orthogonal projecton of X on the line AB |
| parallel_proj(X,v,A,B) | Intersection of line X+<v> with line AB [to check] |
| intersect(A,B,X,Y) | Intersection of the lines AB and XY |
| walk(A,B,d) | Move a distance d on the line AB starting from A. |
| area(A,B,C) | Oriented area of triangle ABC |
| angle(A,B,C) | angle A in triangle ABC [to check] |
| | |
| **Constructive graphics** | |
| bullet(A, size=6. color='k', shape='o') | Plots a bullet at A of specified size, color, and shape. |
| bullets(*P, size=6. color='k', shape='o') | Places a bullet at each point of list P of specified size, color, and shape. |
| seg(A,B,lw=1,dashing='-',color='k' | Draws the segment [A,B] with specified linewidth (lw), dashing, and color. |
| segs(*S,lw=1,dashing='-', color='k') | Draws the segments on the list S with specified linewidth (lw), dashing, and color. |
| ruler(A,B,lw=1, dashing='-', color='k', left_inc=10, right_inc=10 | Draws a prologation of the segment [A,B] at A and at B by given amounts |

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| | |
| **Function signature** | **Description** |
| cfr(K, lw=1, dashing='-', color='k') | Draws the circle K = [O,r] with center O and radius r with specified lw, dashing and color. |
| | |
| **Labeling facilities** | |
| lable(P,Text,fs=18, dx=0, dy=0, color='k') | Places 'Text' at P+(dx,dy) with specified font size (fs) |