Random vector

Antalene (EE22BTECH11008)

Random vectors obtained

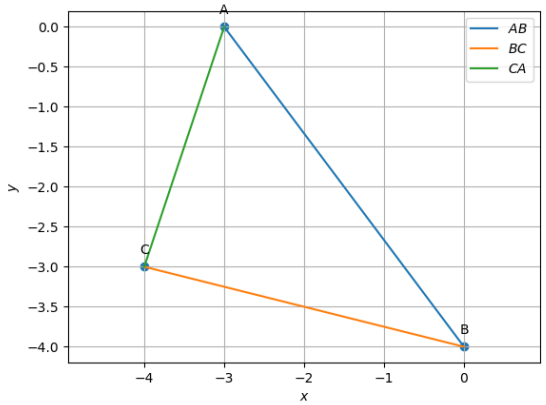
$$\mathbf{A} = \begin{pmatrix} -3 \\ 0 \end{pmatrix}$$

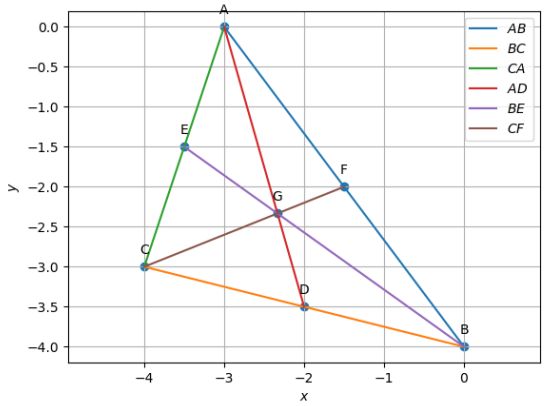
$$\mathbf{B} = \begin{pmatrix} 0 \\ -4 \end{pmatrix}$$

$$\mathbf{C} = \begin{pmatrix} -4 \\ -3 \end{pmatrix}$$

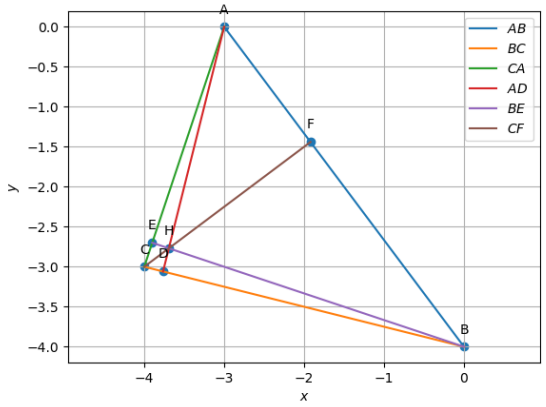
Parameters	values	description
$\mathbf{m_1}$	$(3, -4)$	$B - A$
$\mathbf{m_2}$	-4, 1	C-B
$\mathbf{m_2}$	1, 3	A-C
—B-A—	5	1
—C-B—	root17	2
—A-C—	root10	3
rank	3	rank
$\mathbf{n_1}$	-4, -3	omat x m1
$\mathbf{n_2}$	1, 4	omat x m2
$\mathbf{n_3}$	3, -1	omat x m3
area	6.5	0.5 x —m1 x m2—
angle A	13.31	cosa
angle B	48.73	cosb
angle C	117.95	cosc

Parameters	values	description
D	-2, -3.5	B+C/2
E	-3.5, -1.5	C+A/2
F	-1.5, -2	A+B/2
$\mathbf{m_4}$	1, -3.5	D-A
$\mathbf{m_5}$	-3.5, 2.5	E-B
$\mathbf{m_6}$	2.5, 1	F-C
$\mathbf{n_4}$	-3.5, -1	omat x m4
$\mathbf{n_5}$	2.5, 3.5	omat x m5
$\mathbf{n_6}$	1, -2.5	omat x m6
G	-7/3, -7/3	A+B+C/3
AG	53/3	centroid divides median in
DG	53/6	
BG	74/3	
EG	74/6	
CG	root29/3	
FG	root29/6	
rank ADG	2	Therefore points are collin
rank BEG		
rank CFG		
AF	-3/2, 2	AFDE isa a quad
ED		

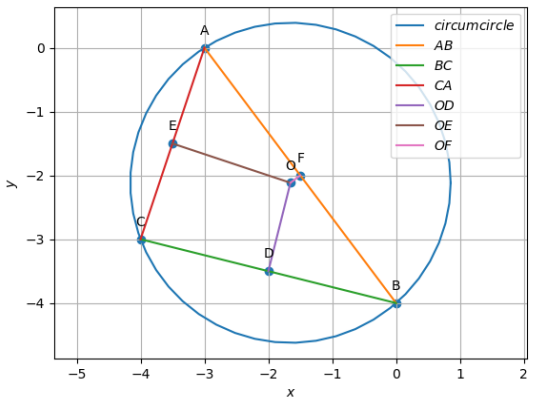




Parameters	values	description
$\mathbf{n_7}$	-4,1	alt AD1
$\mathbf{n_8}$	1,3	alt BE1
$\mathbf{n_9}$	3, -4	alt CF1
H	-48/13, -36/13	orthocentre



Parameters	values	description
O	-43/26, -55/26	circumcentre
OA	2.5074	circumradius
OB		
OC		



Parameters	values	description
A	-0.28, 1.74	angular bisector
B	-1.57, 1.04	
C	-1.28, -0.70	
I	-2.63, -2.25	incentre
R_I	1.0581	
BAI	27.65	bisector of A
CAI		
ABI	19.54	bisector of B
CBI		
BCI	137.12	bisector of C
ACI		
D3	-2.89, -3.27	points of intersection
E3	-1.78, -1.61	
F3	-2.89, -3.27