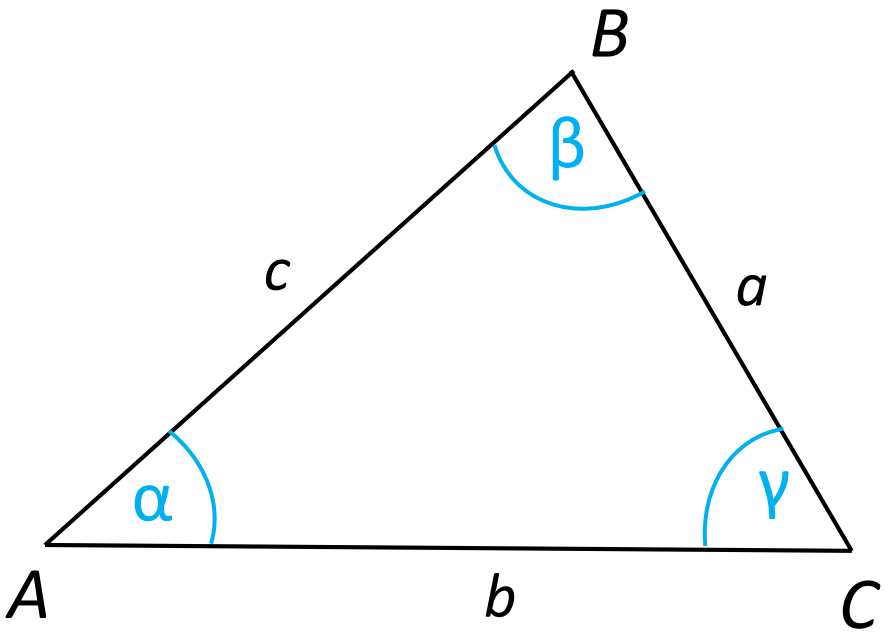
Kosinusov poučak



Pored sinusovog poučka za trokute koji nisu pravokutni primjenjujemo i kosinusov poučak za računanje nepoznatih veličina u trokutu. Definicija kosinusova poučka glasi:

Kvadrat bilo koje stranice trokuta jednak je zbroju kvadrata drugih dviju stranica umanjen za dvostruki umnožak tih dviju stranica i kosinusa kuta između njih.

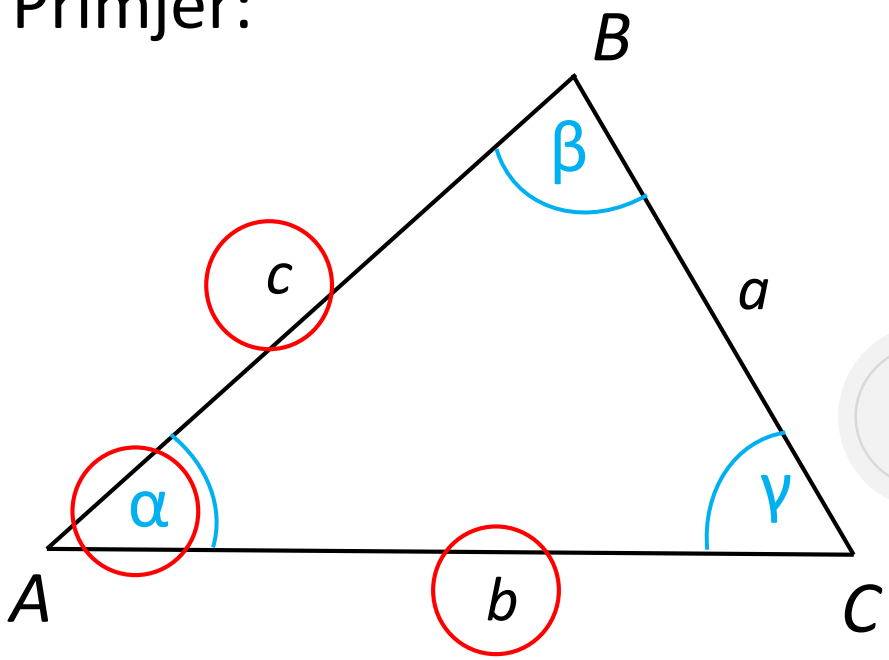
$$a^2 = b^2 + c^2 - 2bc \cos \alpha$$

$$b^2 = a^2 + c^2 - 2ac \cos \beta$$

$$c^2 = a^2 + b^2 - 2ab \cos \gamma$$

Kosinusov poučak

Primjer:



Zadano:

b = 147,77
c = 172,06
α = 57°34’47’’

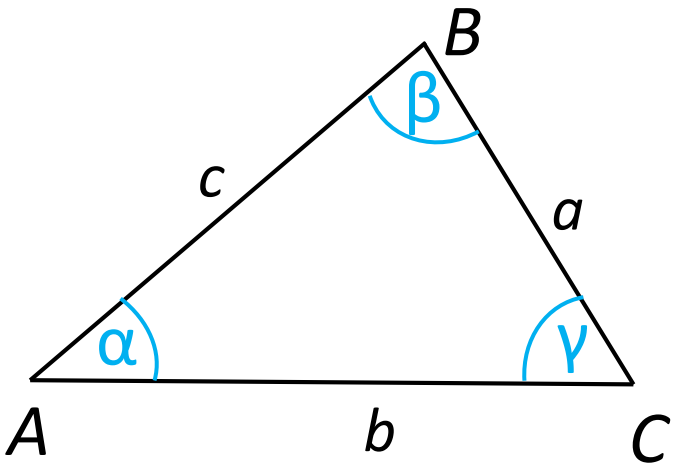
$$a^2 = b^2 + c^2 - 2bc \cos \alpha$$

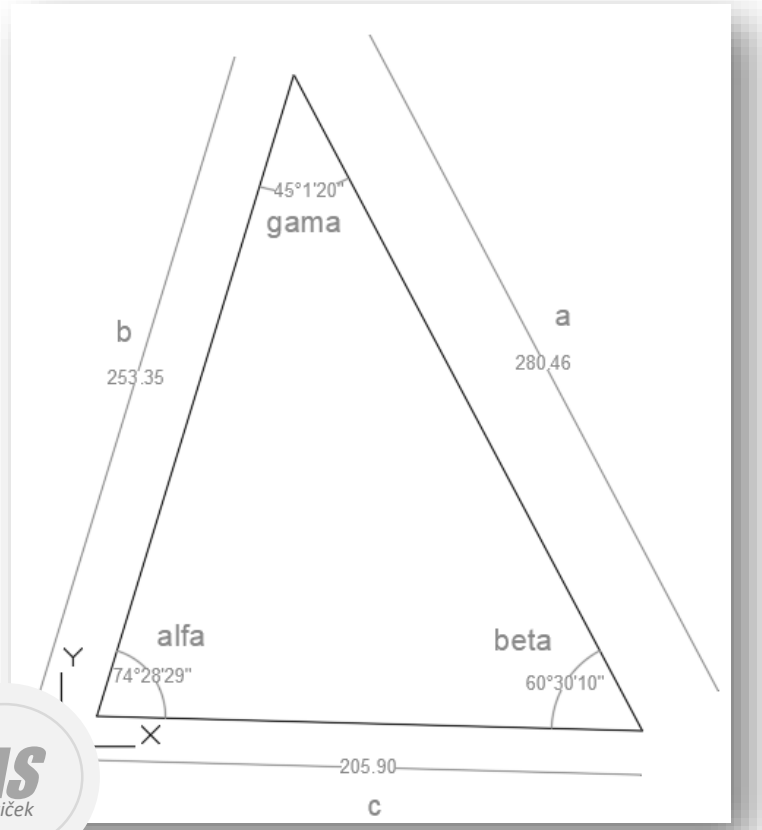
$a^2 = 147{,}77^2 + 172{,}06^2 - 2 \cdot 147{,}77 \cdot 172{,}06 \cdot \cos 57°34’47’’$

$a^2 = 21835{,}97 + 29604{,}64 - 50850{,}61 \cdot 0{,}536126 = 24178{,}30$

$a = 155{,}49$

Kosinusov poučak





Primjeri:

a	b	c		kut - ° ' ''										
	253,35	205,9	α	74	28	29		b^2	c^2	2bc	cos α	=	a^2	**a**
							a²=	64186,22	42394,81	104329,53	0,267663	=	78655,83	**280,46**
								a^2	c^2	2ac	cos β		b^2	**b**
280,46		205,9	β	60	30	10	b²=	78657,81	42394,81	115493,43	0,492381	=	64185,81	**253,35**
								a^2	b^2	2ab	cos γ		c^2	**c**
280,46	253,35		γ	45	1	20	c²=	78657,81	64186,22	142109,08	0,706832	=	42396,72	**205,90**