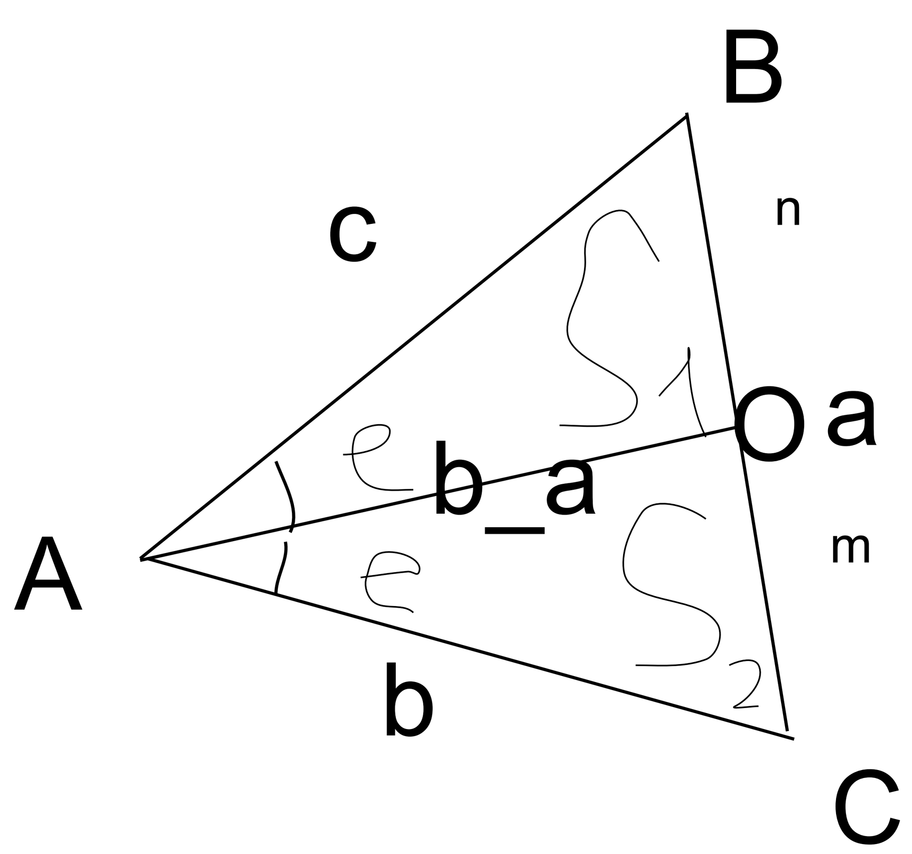
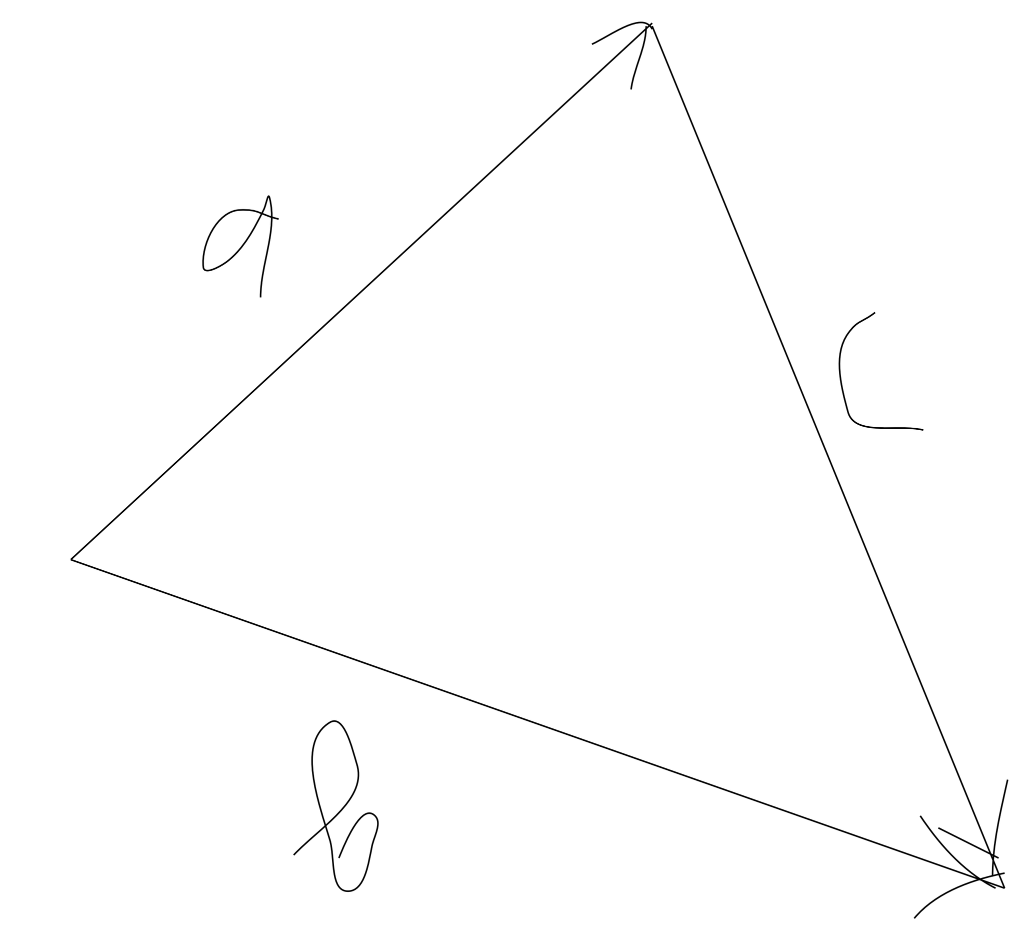
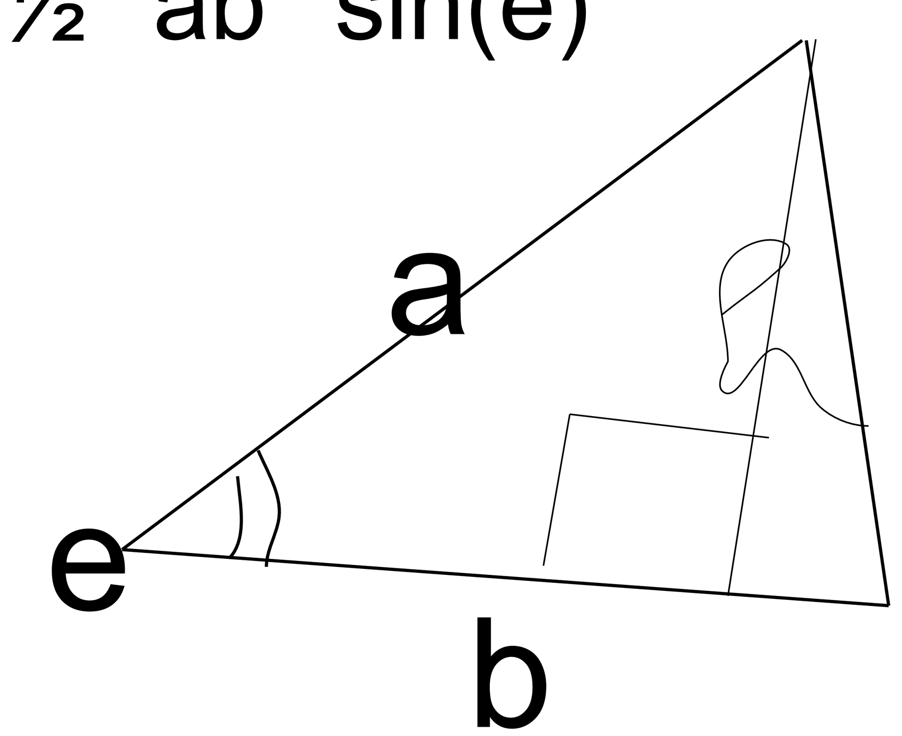
Дан треугольник ABC, и три его стороны a,b,c. найти b_a

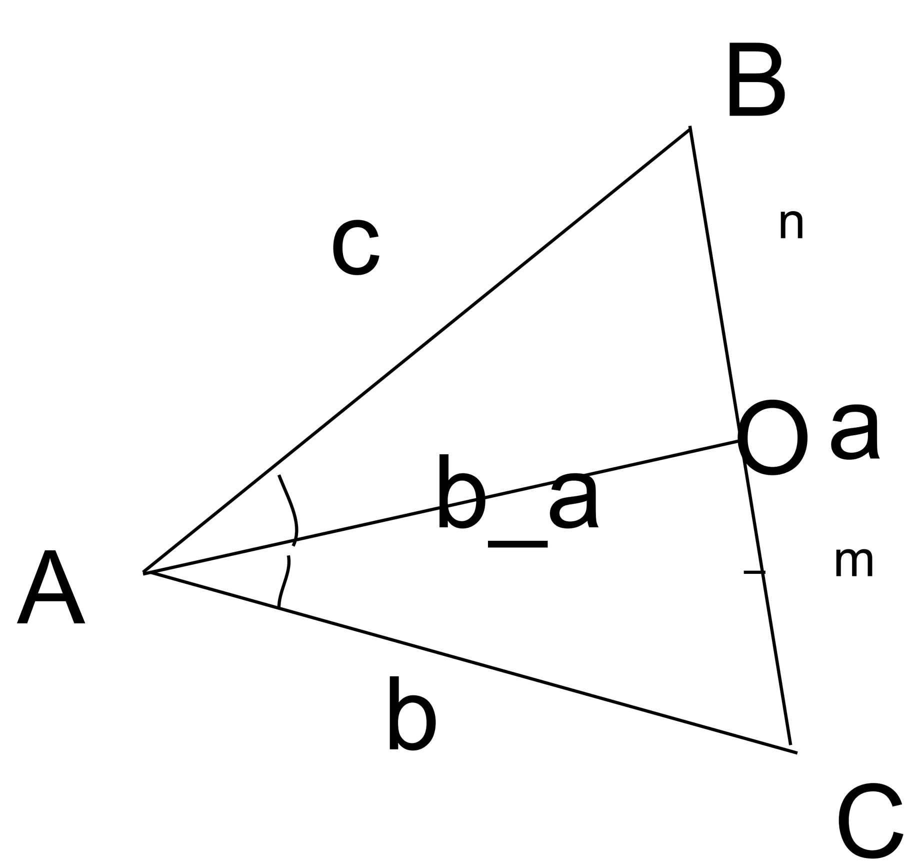




_a+_c=_b
_a=_b-_c
(_x,_y)=|_x|*|_y|*cos(x^y)
(_a,_a)=(_b-_c,_b-_c)
|_a|^2=(_b,_b)-(_b,_c)-(_c,_b)+(_c,_c)
|_a|^2=|_b|^2-2(_c,_b)+|_c|^2

S=½* ab *sin(e)





sin(e)=h/a
h=sin(e)*a
S=hb/2
S=sin(e)ab/2

S=S1+S2
S=(sin2e*cb)/2
S1=(sine*b_a*c)/2
S2=(sine*b_a*b)/2
(sin2e*cb)/2=(sine*b_a*c)/2+(sine*b_a*b)/2
(2sine*cose*cb)/2=(sine*b_a*c)/2+(sine*b_a*b)/2|*2
2sine*cose*cb=sine*b_a*c+sine*b_a*b|*(1/sine)
2cose*cb=b_a(c+b)
b_a=(2cose*cb)/(c+b)   a^2=b^2+c^2-2bc*cosA
cos2e=(b^2+c^2-a^2)/(2bc)
cos2e=cos(e+e)=cos^2(e)-sin^2(e)=cos^2(e)-1+cos^2(e)=2cos^2(e)-1
cos^2(e)=(cos2e+1)/2
cose=V((cos2e+1)/2)
b_a=(2V((cos2e+1)/2)*cb)/(c+b)=(2V(((b^2+c^2-a^2)/(2bc)+1)/2)*cb)/(c+b)=(2V(((b^2+c^2-a^2+2bc)/(2bc))/2)*cb)/(c+b)=
=(2V((bc(b^2+c^2-a^2+2bc)/4))/(c+b)=(2V((bc((b+c)^2-a^2)/4))/(c+b)=(2V(bc(b+c-a)(b+c+a)/4))/(c+b)=
=(2V(bc(b+c-a)(b+c+a)/4))/(c+b)=(2V(bc[(b+c+a-2a)/2]*[(b+c+a)/2]))/(c+b)=
=[p=(a+b+c)/2]=
=(2V(bc(p-a)*p))/(c+b)