Area triangolo
e formule inverse
con trigonometria

Geogebra, derive, cabri, excel

Vista Algebra

- Angolo
  - α = 1.17 rad
  - β = 0.97 rad
  - γ = 1.01 rad
- Numero
  - d = 21.25
  - e = 7.49
  - f = 6.7
  - g = 0.85
  - h = 1.01
  - i = 6.9
  - j = 0.82
  - k = 0.97
  - l = 0.92
  - m = 1.17
- Punto
  - A = (-0.58, -4.97)
  - B = (6.32, -4.97)
  - C = (2.06, 1.19)
- Segmento
  - a = 7.49
  - b = 6.7
  - c = 6.9
- Triangolo
  - poli1 = 21.25

Vista Grafica

noti 3 elementi, calcolare quarto

S = a*b*sin(γ) / 2 = 21.25 (d)

a = 2S/(b*sin(γ)) = 7.49 (e)

b = 2S / (a*sin(γ)) = 6.7 (f)

sin(γ) = 2S / (a*b) = 0.85 (g) asin(

c = 2s / (A*SIN(β))=6.9 (i)

sin(β) = 2S / (a*c) = 0.82 (j)

asin(β) = .97 (k)

sin(α) = 2*S / (b*c) = 0.92 (l)

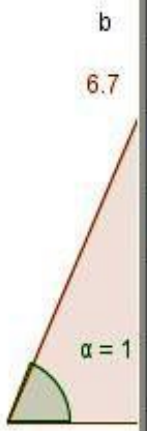
alfa = asin(α) = 1.17 (m)

area triangolo

S = a*b*sin(γ) /2

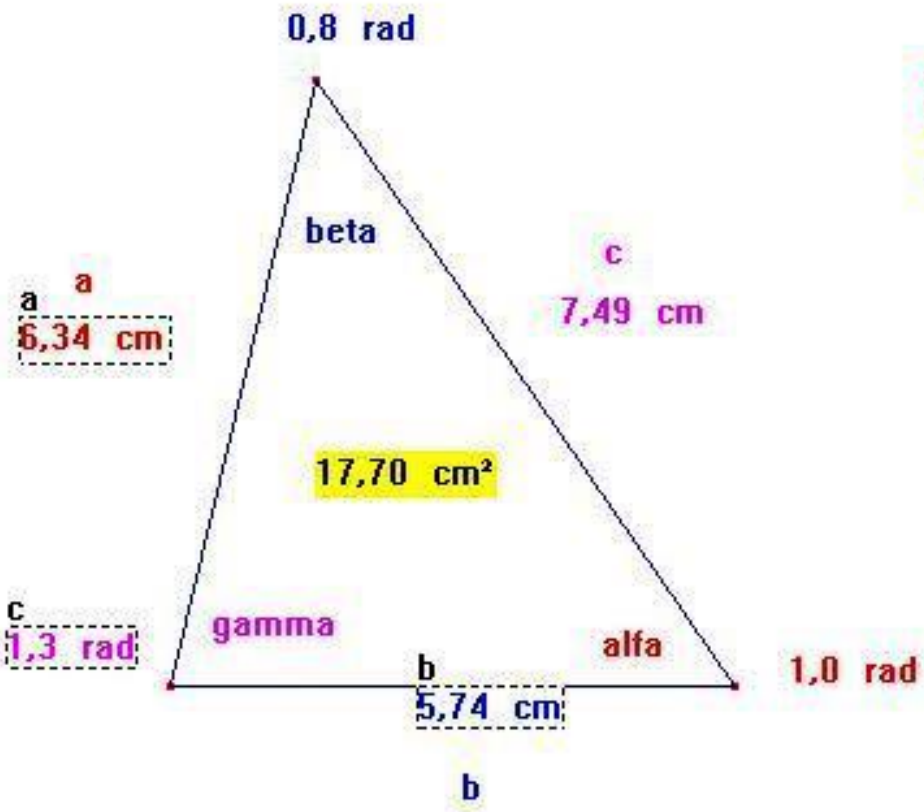
S = a*c*sin(β)/2

S = b*c*sin(α)/2



Protocollo di costruzione

N.	Nome	Definizione	Valore
14	Testo testo5		"S = a*b*sin(γ) / 2 = 21.25 (d)"
15	Testo testo6		"noti 3 elementi, calcolare quarto"
16	Testo testo7		"a = 2S/(b*sin(γ)) = 7.49 (e)"
17	Numero e	2d / (b sin(γ))	e = 7.49
18	Testo testo8		"b = 2S / (a*sin(γ)) = 6.7 (f)"
19	Numero f	2d / (a sin(γ))	f = 6.7
20	Testo testo9		"sin(γ) = 2S / (a*b) = 0.85 (g)"
21	Numero g	2d / (a b)	g = 0.85
22	Numero h	asin(g)	h = 1.01
23	Testo testo10		"asin(g) = 1.01 rad (h)"
24	Testo testo11		"c = 2s / (A*SIN(β))=6.9 (i)"
25	Numero i	2d / (a sin(β))	i = 6.9
26	Testo testo12		"sin(β) = 2S / (a*c) = 0.82 (j)asin(β) = .97 (k)"
27	Numero j	2d / (a c)	j = 0.82
28	Numero k	asin(j)	k = 0.97



calcolo area, noto a, b , gamma

Risultato: 17,70 cm²

noto a,c, beta

Risultato: 17,70 cm²

noto b, c , alfa

Risultato: 17,70 cm²

calcolo a
noto S, b, gamma

a = 2S/(b*sin(gamma)

Risultato: 6,34 cm

area = lato1*lato2*sin(angolo compreso) / 2

S = a*b*sin(gamma)/2
S = a*c*sin(beta)/2
S = b*c*sin(alfa) /2

calcolo b
noto S, a , gamma

b = 2S/ (a*sin(gamma)

Risultato: 5,74 cm

Calcolatrice

Stop | Annulla | a * b * sin(c) / 2 | = | 17,70 cm²

inv | sin | cos | tan | sqrt | ^ | ln | log | abs | pi | (|) | + | - | × | / | =

#1: "area triangolo, formule inverse"

#2: a := 6.34

#3: b := 5.74

#4: c := 7.49

#5: α := 1

#6: β := 0.8

#7: γ := 1.3

#8: "................"

#9:
$$\begin{bmatrix} -0.58 & -4.97 \\ 6.32 & -4.97 \end{bmatrix}$$

#10:
$$\begin{bmatrix} -0.58 & -4.97 \\ 2.06 & 1.19 \end{bmatrix}$$

#11:
$$\begin{bmatrix} 2.06 & 1.19 \\ 6.32 & -4.97 \end{bmatrix}$$

#12: "........................."

#13: "calcolo S "

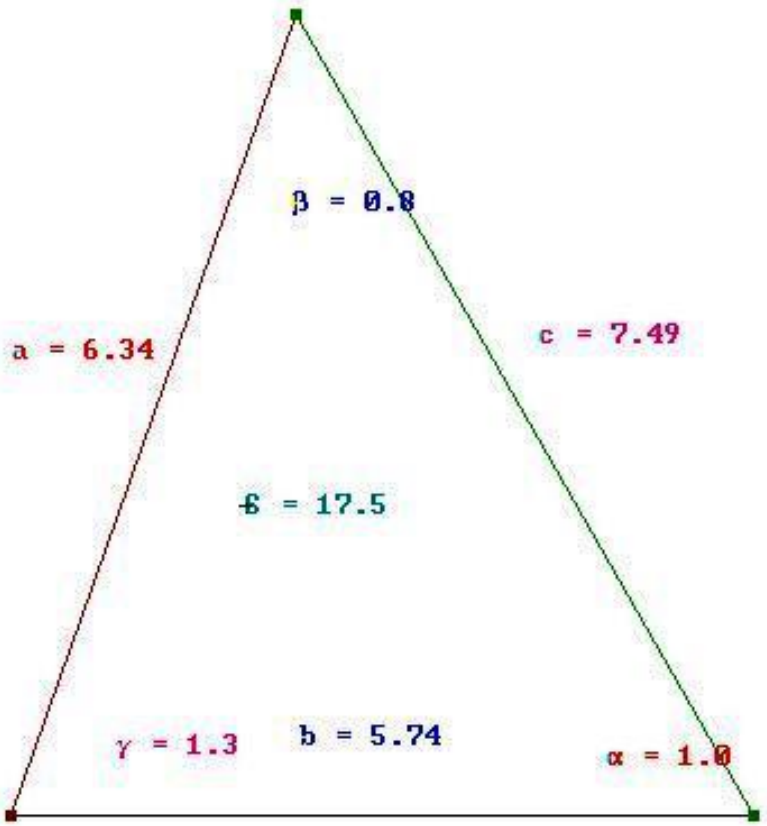
#14:
$$\frac{a \cdot b \cdot \mathrm{SIN}(1.3)}{2}$$

#15: 17.5

#16: "................"

#17: "noti 3 elementi, calcolare quarto"

y



#16: "..................."

#17: "noti 3 elementi, calcolare quarto"

#18: "S = a*b*sin(γ) / 2"

#19: "S = a*c*sin(β) / 2 "

#20: "S = b*c*sin(α) / 2"

#21: "....................."

#22: s := 17.5

#23: "calcolo a"

#24: $a := \frac{2 \cdot s}{b \cdot \mathrm{SIN}(1.3)}$

#25: 6.3

#26: "calcolo b"

#27: $b := \frac{2 \cdot s}{6.32978 \cdot \mathrm{SIN}(1.3)}$

#28: 5.7

#29: "calcolo sin(γ) e asin(γ) = gamma"

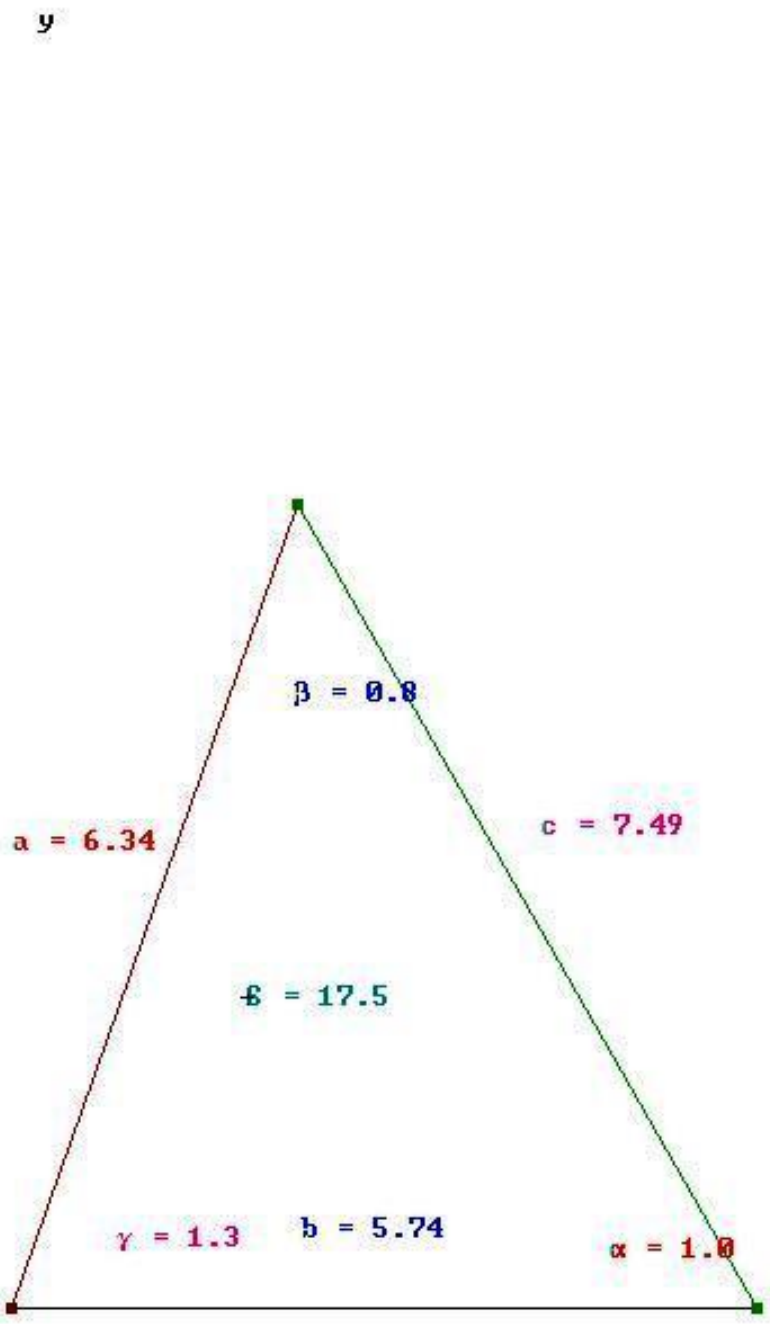
#30: $\frac{2 \cdot s}{6.32978 \cdot 5.74193}$

#31: 0.96

#32: ASIN(0.962962)

#33: 1.29

#34: "..................."



#34: "..................."

#35: "S = a*c*sin(β) / 2 "

#36: "calcolo c"

#37: $\frac{2 \cdot s}{6.34 \cdot SIN(0.8)}$

#38: $APPROX\left(\frac{2 \cdot s}{6.34 \cdot SIN(0.8)}, 3\right)$

#39: 7.69

#40: "calcolo sin(β), asin(β) = beta"

#41: $\frac{2 \cdot s}{6.34 \cdot 7.49}$

#42: $APPROX\left(\frac{2 \cdot s}{6.34 \cdot 7.49}, 3\right)$

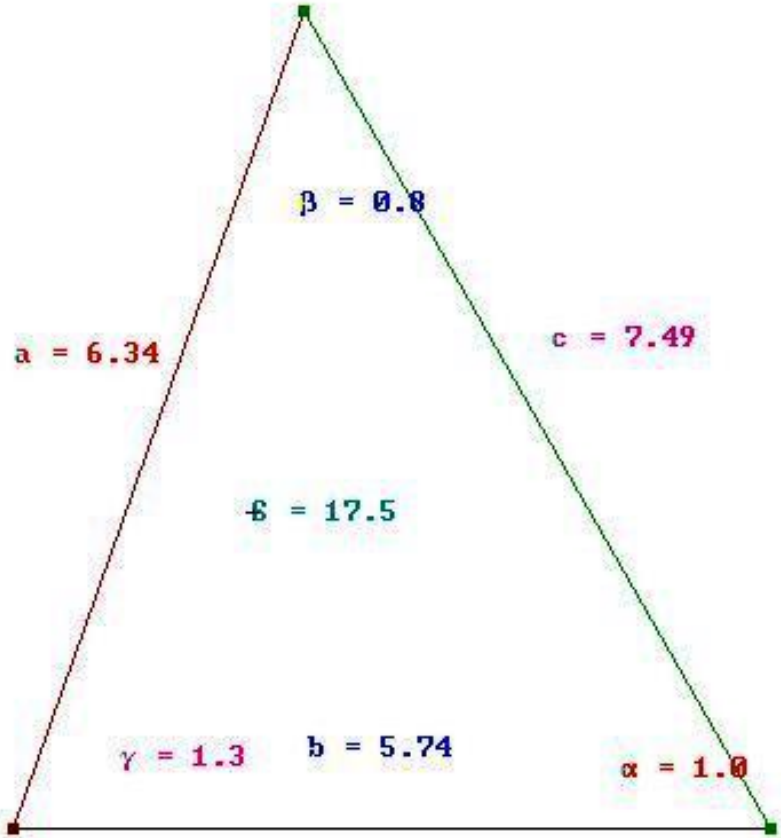
#43: 0.737

#44: ASIN(0.737)

#45: 0.828

#46: "..................."

y



#46: "..................."

#47: "S = b*c*sin(α) / 2"

#48: "calcolo sin(α), asin(α) = alfa"

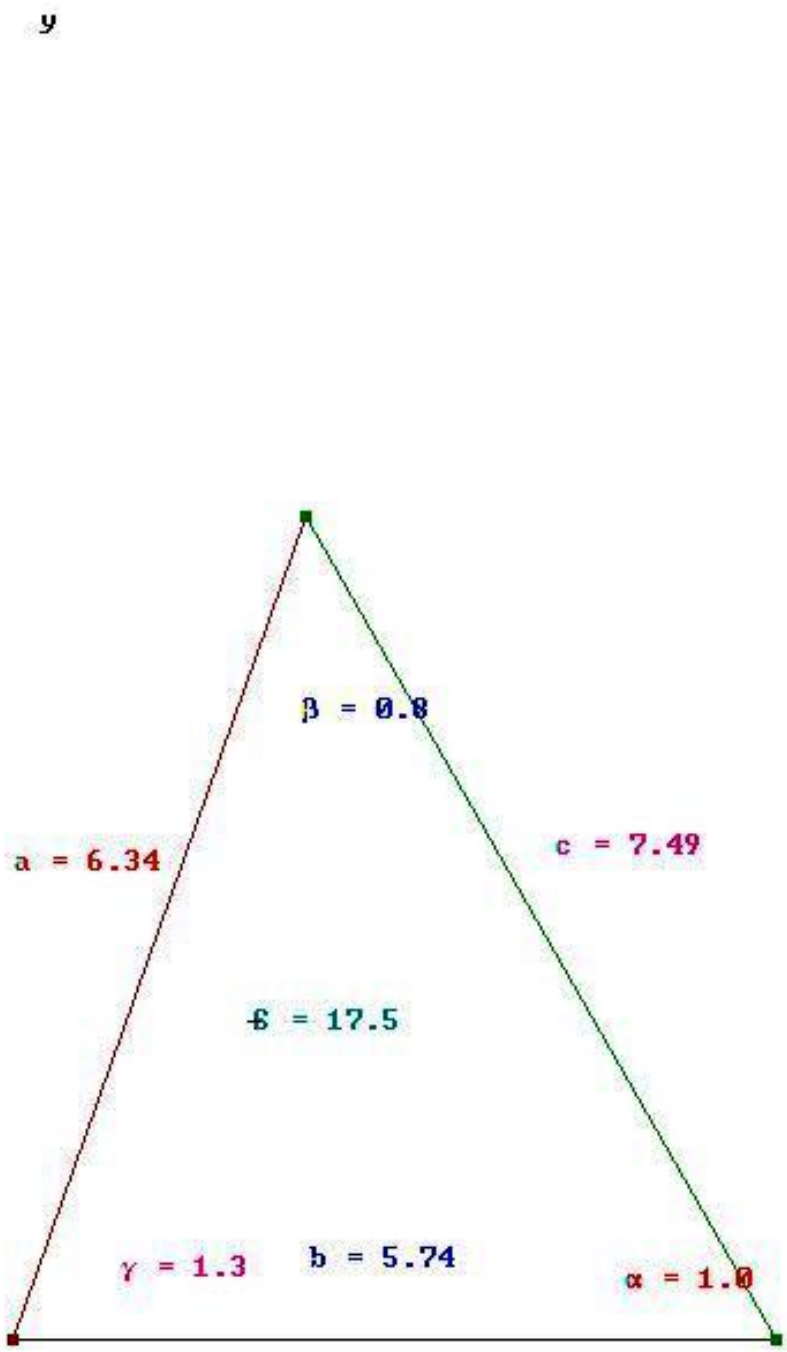
#49: $\frac{2 \cdot s}{5.74 \cdot 7.49}$

#50: $\frac{25000}{30709}$

#51: 0.814

#52: ASIN(0.814092)

#53: 0.951



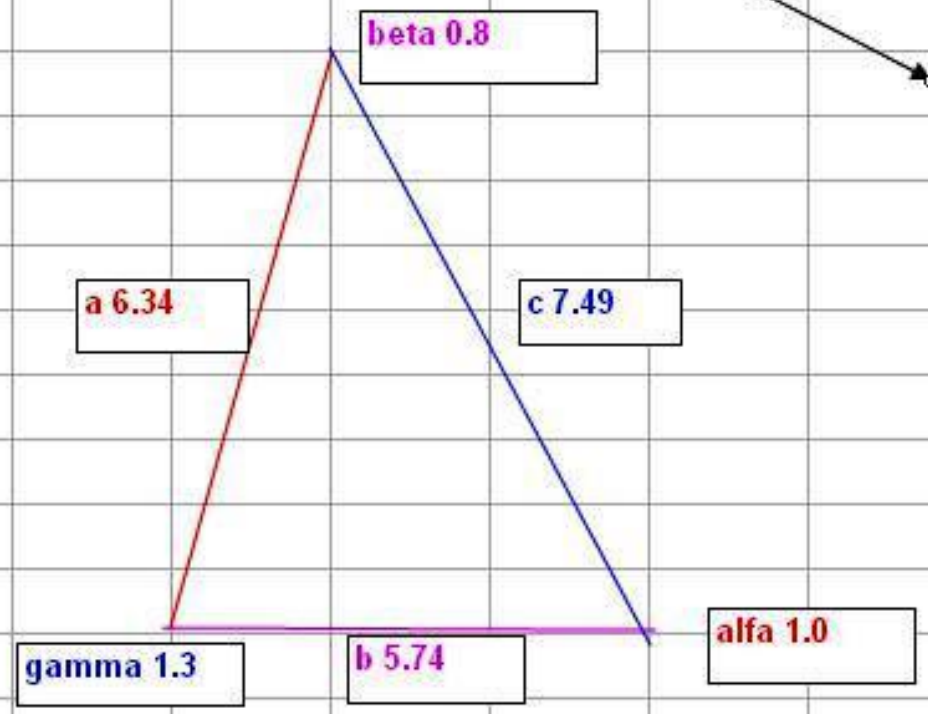
			alfa	beta	gamma
6,34	5,74	7,49	1	0,8	1,3

area triangolo
S1 = a*b*sen(gamma) / 2
S2 = a*c*sen(beta) / 2
S3 = b*c*sen(alfa) / 2

S1	17,53

noti 3 elementi, calcolare quarto

a	6,34
b	5,74
'gamma	1,3
c	7,710011882
beta	0,830735835
alfa	0,953791907



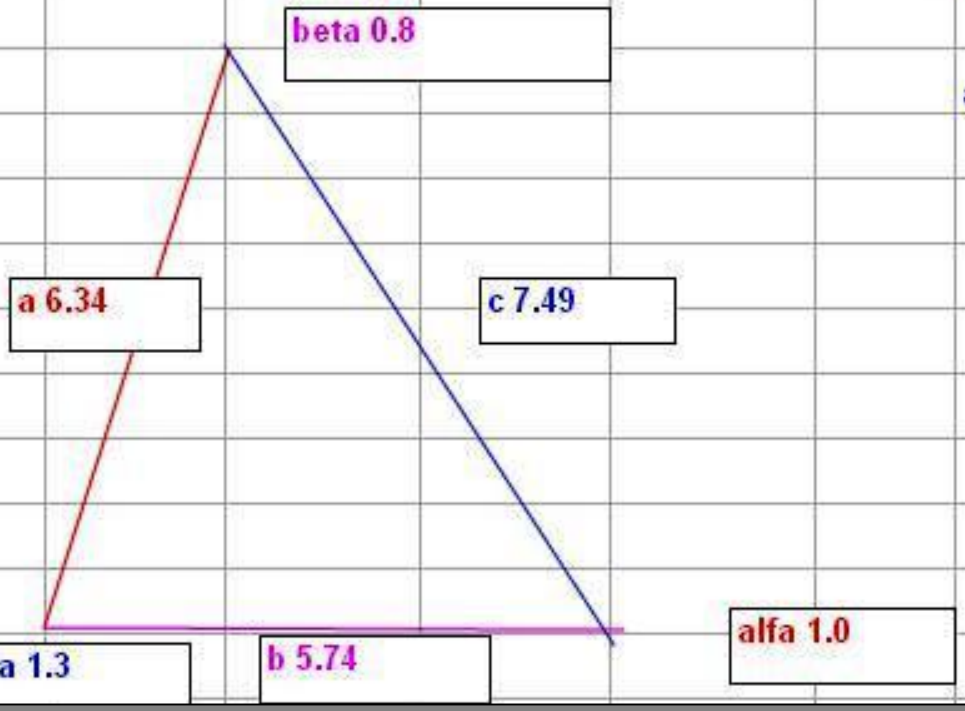
	a	b	alfa	beta	gamma
2	5,74	7,49	1	0,8	1,3

S1	=A2*B2*SEN(F2)/2

noti 3 elementi, calcolare quarto

a	=2*I1/(B2*SEN(F2))
b	=2*I1/(A2*SEN(F2))
'gamma	=ARCSEN(2*I1/(A2*B2))
c	=2*I1/(A2*SEN(0,8))
beta	=ARCSEN(2*I1/(A2*C2))
alfa	=ARCSEN(2*I1/(B2*C2))

area triangolo
S1 = a*b*sen(gamma) / 2
S2 = a*c*sen(beta) / 2
S3 = b*c*sen(alfa) / 2



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- γ = 1.01 rad

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- g = 0.85
- h = 1.01
- i = 6.9
- j = 0.82
- k = 0.97
- l = 0.92
- m = 1.17

Punto
- A = (-0.58, -4.97)
- B = (6.32, -4.97)
- C = (2.06, 1.19)

Segmento
- a = 7.49
- b = 6.7
- c = 6.9

Triangolo
- poli1 = 21.25

noti 3 elementi, calcolare quarto

area triangolo

S = a*b*sin(γ) / 2 = 21.25 (d)

S = a*b*sin(γ) /2

S = a*c*sin(β)/2

S = b*c*sin(α)/2

a = 2S/(b*sin(γ)) = 7.49 (e)

b = 2S / (a*sin(γ)) = 6.7 (f)

sin(γ) = 2S / (a*b) = 0.85 (g)

asin(g) = 1.01 rad (h)

c = 2s / (A*SIN(β))=6.9 (i)

sin(β) = 2S / (a*c) = 0.82 (j)

asin(β) = .97 (k)

sin(α) = 2*S / (b*c) = 0.92 (l)

alfa = asin(α) = 1.17 (m)