



COLEGIO SALESIANO SANTA CECILIA

Bachillerato

41 "B"

Estudiante:

Diego Roberto Cuéllar Meléndez.

Especialidad:

Sistemas informáticos e inglés.

Materia:

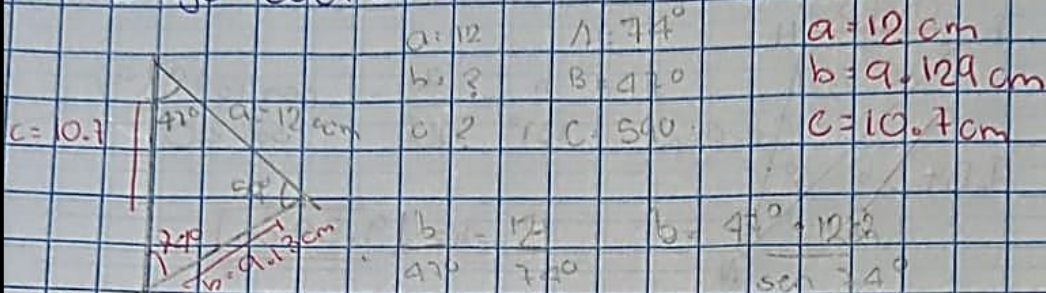
Matemáticas

Docente:

Alexander Valiente.

Lunes 27 de jul. de 20

Diego Cuellar



$$A = 74^\circ$$

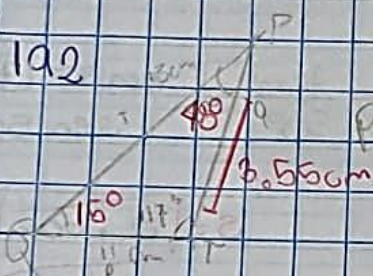
$$b = 9.13 \text{ cm}$$

$$c = 10.7 \text{ cm}$$

$$b = 8.71 \quad || b = a \cdot \frac{\sin A}{\sin 42^\circ}$$

$$c = \frac{\sin 54^\circ (9.12)}{\sin 42^\circ} = 10.71 \approx \boxed{10.7 \text{ cm}}$$

192



$$P = 48^\circ \quad \frac{\sin 117^\circ}{\sin 11^\circ} = \frac{\sin(P)}{13 \text{ cm}}$$

$$\frac{9.801}{13 \text{ cm}} = \frac{\sin(P)}{13 \text{ cm}} \quad \sin(P) = \sin(117^\circ) \cdot \frac{13 \text{ cm}}{9.801}$$

$$P = 48^\circ 56'$$

$$Q = 14^\circ 4'$$

$$R = 3.55 \text{ cm}$$

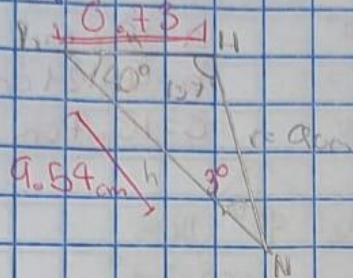
$$180^\circ - (117^\circ + 48^\circ) = \boxed{15^\circ}$$

$$\frac{Q}{Q} = \frac{T}{T} \quad Q = \frac{\sin 15^\circ (13 \text{ cm})}{\sin 117^\circ}$$

$$\frac{3.36}{0.89} = 3.55 \text{ cm}$$

$$3.55 \text{ cm}$$

191.



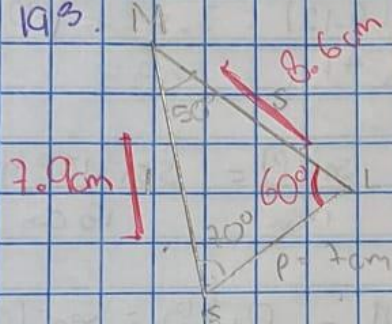
$$\frac{h}{a} = \frac{\sin 137^\circ}{\sin 40^\circ} \Rightarrow h = \frac{a \sin 137^\circ}{\sin 40^\circ}$$

$$h = 9.54 \text{ cm}$$

$$\frac{n}{a} = \frac{\sin 3^\circ}{\sin 137^\circ} \Rightarrow n = \frac{a \sin 3^\circ}{\sin 137^\circ}$$

$$n = 0.732 \text{ cm}$$

193.



$$\frac{S}{p} = \frac{\sin 70^\circ}{\sin 50^\circ} \Rightarrow S = \frac{p \sin 70^\circ}{\sin 50^\circ}$$

$$S = 8.6 \text{ cm}$$

$$\frac{L}{S} = \frac{\sin 60^\circ}{\sin 70^\circ} \Rightarrow L = \frac{S \sin 60^\circ}{\sin 70^\circ}$$

$$L = 7.9 \text{ cm}$$

$N =$ _____ $L =$ _____

$n =$ _____ $S =$ _____

$$h = \underline{\hspace{2cm}} \quad l = \underline{\hspace{2cm}}$$

Determina qué triángulo se genera para cada condición, si $h = b \operatorname{sen} a$. Justifica la respuesta en tu cuaderno, con un dibujo y un argumento.

194. $a < b \operatorname{sen} A$

195. $a = b \operatorname{sen} A$ _____196. $a < b$ y $b \text{ sen } A < a$ _____

Soluciona los siguientes triángulos. Luego constrúyelos en el cuaderno.



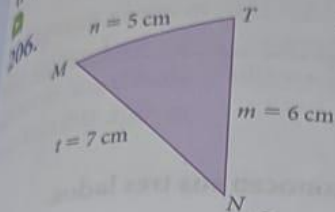
197. $A = 30^\circ$ $B = 50^\circ$ $c = 6 \text{ cm}$
 $a = 3.09$ $b = 4.67$ $C = 100^\circ$

198. $m = 12 \text{ cm}$ $N = 47^\circ$ $P = 59^\circ$
 $M = 74^\circ$ $n = 9.13 \text{ cm}$ $p = 10.7 \text{ cm}$

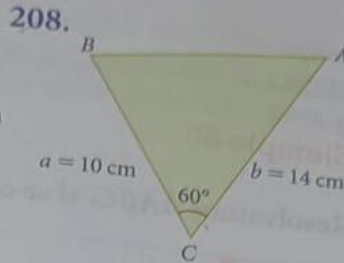
199. $M = 69^\circ$ $s = 10 \text{ cm}$ $l = 10 \text{ cm}$
 $m = 11.33 \text{ cm}$ $S = 55^\circ 30'$ $L = 55^\circ 30'$

200. $Q = 27^\circ$ $R = 54^\circ$ $f = 9 \text{ cm}$
 $q = 4.14 \text{ cm}$ $r = 2.67$ $F = 990$

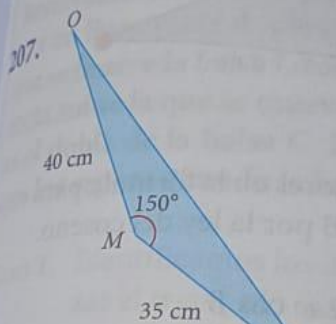
Encuentra la medida de los ángulos y los lados de cada triángulo.



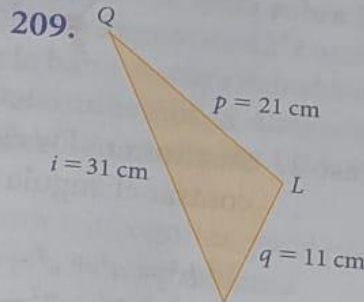
$$\begin{aligned} M &= 57.11^\circ \\ N &= 44.41^\circ \\ T &= 78.46^\circ \end{aligned}$$



$$\begin{aligned} c &= 12.49 \text{ cm} \\ A &= 43.9^\circ \\ B &= 76.1^\circ \end{aligned}$$



$$\begin{aligned} M &= 72.46^\circ \\ O &= 13.98^\circ \\ N &= 16.01^\circ \end{aligned}$$



$$\begin{aligned} P &= 19.96^\circ \\ Q &= 10.3^\circ \\ L &= 149.73^\circ \end{aligned}$$

Resuelve los siguientes triángulos.

210. $c = 4 \text{ cm}$, $a = 2 \text{ cm}$ y $\angle B = 45^\circ$

$$\begin{aligned} C &= 106.33^\circ \\ A &= 28.66^\circ \\ b &= 2.92 \text{ cm} \end{aligned}$$

211. $a = 10 \text{ cm}$, $b = 7 \text{ cm}$ y $c = 9 \text{ cm}$

$$\begin{aligned} A &= 76.23^\circ \\ B &= 42.83^\circ \\ C &= 60.93^\circ \end{aligned}$$

212. $b = 1 \text{ cm}$, $c = 3 \text{ cm}$ y $\angle A = 80^\circ$

$$\begin{aligned} a &= 2.90 \text{ cm} \\ B &= 19.21^\circ \\ C &= 80.78^\circ \end{aligned}$$

Utiliza la ley del coseno para demostrar que

215. Dos barcos
nes que for
leva una ve
km/h, ¿cuá
distancia qu

216. Un alambre
forma de t
gulo mide
¿cuál es la

217. A qué dist
observado



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

$$a^2 = 1700^2 + 900^2 - 2(1700)(900) \cos(50^\circ)$$

$$a^2 = 3700000 - 1266930.026$$

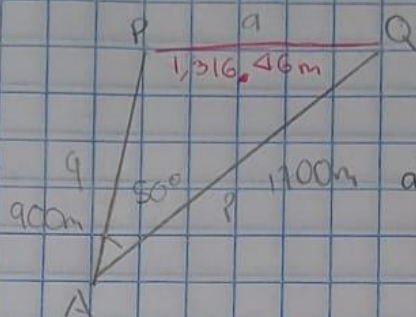
$$a^2 = 1733069.914$$

$$\sqrt{a^2} = \sqrt{1733069.914}$$

$$a = 1316.461133$$

$$PQ = 1,316.46m$$

214.



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

$$a^2 = 1700^2 + 900^2 - 2(1700)(900) \cos(50^\circ)$$

$$a^2 = 3700000 - 1266930.026$$

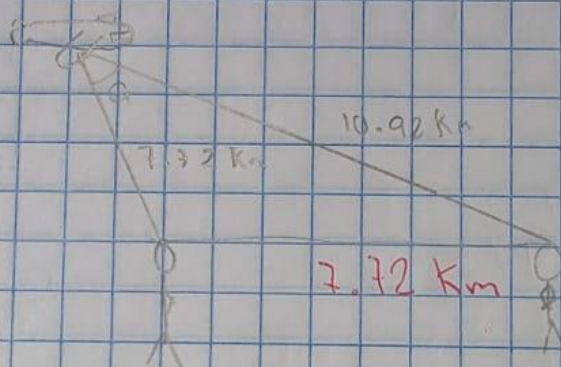
$$a^2 = 1733069.914$$

$$\sqrt{a^2} = \sqrt{1733069.914}$$

$$a = 1316.461133$$

$$PQ = 1,316.46m$$

217.



$$c^2 = a^2 + b^2 - 2ab \cos(C)$$

$$c^2 = 7.72^2 + 10.92^2 - 2(7.72)(10.92) \cos(46^\circ)$$

$$c^2 = 138.84 - 119.22$$

$$\sqrt{c^2} = \sqrt{18.62}$$

$$c = 7.721$$

$$c = 7.72 \text{ km}$$

219.

$$a = 3.02 \quad b = 3.18 \quad c = 5.21$$

$$\cos A = \frac{3.18^2 + 5.21^2 - 3.02^2}{2(3.18)(5.21)}$$

$$\cos A = \frac{28.1361}{33.1356}$$

$$\cos A = 0.8491$$

$$\cos^{-1} = 31.79^\circ$$

$$A = 31.79^\circ$$

$$B = 33.64^\circ$$

$$C = 114.57^\circ$$

$$\cos B = \frac{3.02^2 + 5.21^2 - 3.18^2}{2(3.02)(5.21)}$$

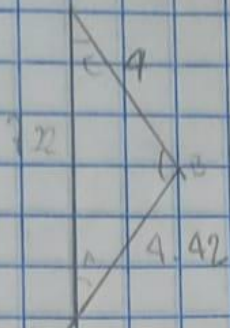
$$\cos B = \frac{26.1521}{31.4684}$$

$$\cos B = 0.83108$$

$$\cos B = 0.83108$$

$$\cos^{-1} B = 33.64^\circ$$

220



$$a = \frac{7.2^2 + 4.42^2 - 4^2}{2(7.2)(4.42)}$$

$$\cos a = \frac{55.6648}{63.8248}$$

$$a = 4 = b = 7.22 \quad c = 4.42 \quad \cos a = 0.872150$$

$$\cos^{-1} = 29.25^\circ \quad A = 29.25^\circ$$

$$B = 118.12^\circ$$

$$C = 32.63^\circ$$

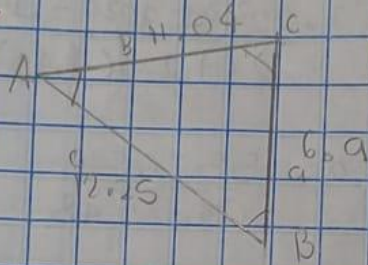
$$\cos B = \frac{4^2 + 4.42^2 - 7.2^2}{2(4)(4.42)}$$

$$\cos B = \frac{-16.592}{35.36} = -0.469230$$

$$\cos^{-1} B = -0.469230$$

$$\cos^{-1} = 118.12^\circ$$

221



$$\begin{aligned} A &= 34^\circ \\ B &= 63.4^\circ \\ C &= 82.4^\circ \end{aligned}$$

$$\cos A = \frac{11.04^2 + 12.25^2 - 6.9^2}{2(11.04)(12.25)}$$

$$\cos A = 0.829392$$

$$\cos A = 0.829392$$

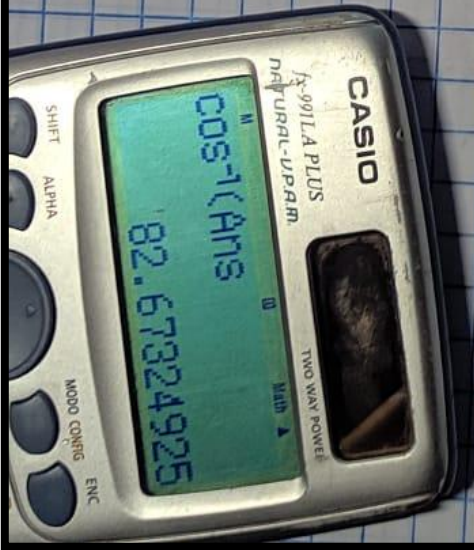
$$\cos A = 34^\circ$$

$$\cos B = \frac{11.04^2 + 6.9^2 - 12.25^2}{2(11.04)(6.9)}$$

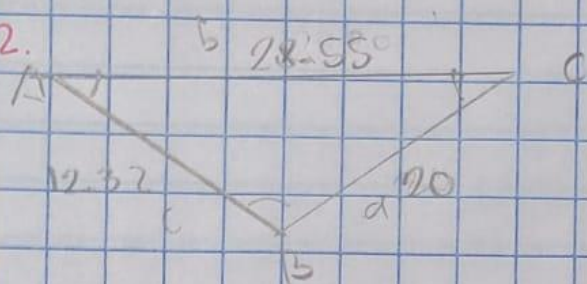
$$\cos B = -0.4291$$

$$\cos B = -0.4291$$

$$\cos^{-1} B = 82.6^\circ$$



222.



$$\cos A = \frac{28.55^2 + 12.32^2 - 20^2}{2(28.55)(12.32)}$$

$$\cos A = \frac{566.8849}{703.442}$$

$$\cos A = 0.805838$$

$$\cos A = 36.32^\circ$$

$$A = 36.32^\circ$$

$$B = 122.28^\circ$$

$$C = 21.4^\circ$$

$$\cos B = \frac{20^2 + 12.32^2 - 28.55^2}{2(20)(12.32)}$$

$$\cos B = \frac{-263.3201}{492.8}$$

$$\cos B = -0.5343 = 122.28^\circ$$