Escuela Politécnica Nacional

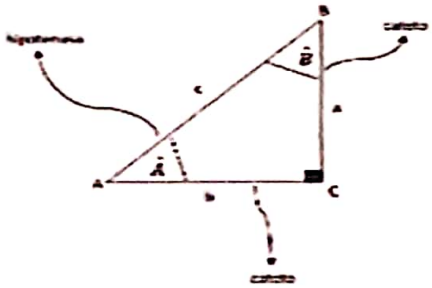
Departamento de Formación Básica
Fundamentos de la Física

Nombre: Huilca Villagómez Fernando Eliceo **Curso:** GR11

Fecha de entrega: 15/11/2022 **Tarea:** #4

TRIÁNGULOS RECTÁNGULOS

Teorema de Pitágoras→ solamente se lo aplica a triángulos rectángulos



$$c^2 = a^2 + b^2; c = \sqrt{a^2 + b^2};\ a = \sqrt{c^2 - b^2};\ b = \sqrt{c^2 - a^2}$$

Respecto al ángulo A:

$$sen\ \hat{A} = \frac{cateto\ opuesto}{hipotenusa}; sen\ \hat{A} = \frac{a}{c}; \hat{A} = \sin^{-1}\frac{a}{c}$$

$$cos\ \hat{A} = \frac{cateto\ adyacente}{hipotenusa}; cos\ \hat{A} = \frac{b}{c}; \hat{A} = \cos^{-1}\frac{b}{c}$$

$$tg\ \hat{A} = \frac{cateto\ opuesto}{cateto\ adyacente}; \text{tg}\ \hat{A} = \frac{a}{b}; \hat{A} = \text{tg}^{-1}\frac{a}{b}$$

Respecto al ángulo B:

$$sen\ \hat{B} = \frac{cateto\ opuesto}{hipotenusa}; sen\ \hat{B} = \frac{b}{c}; \hat{B} = \sin^{-1}\frac{b}{c}$$

$$cos\ \hat{B} = \frac{cateto\ adyacente}{hipotenusa}; cos\ \hat{B} = \frac{a}{c}; \hat{B} = \cos^{-1}\frac{a}{c}$$

$$tg\ \hat{B} = \frac{cateto\ opuesto}{cateto\ adyacente}; \text{tg}\ \hat{B} = \frac{b}{a}; \hat{B} = \text{tg}^{-1}\frac{b}{a}$$

Entonces:

$$sen\ \hat{A} = \cos\hat{B}$$

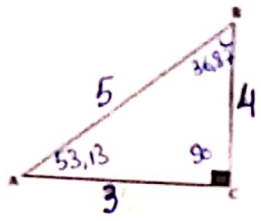
$$cos\ \hat{A} = \text{sen}\ \hat{B}$$

Porque:

$$\hat{A} + \hat{B} = 90°;\ \hat{A}\ y\ \hat{B}\ son\ complementarios$$

Resolver loss triángulos rectángulos. Hallar lados y ángulos.

1)



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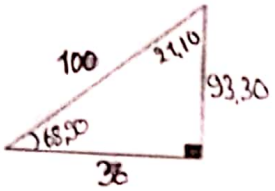

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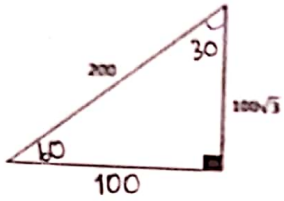

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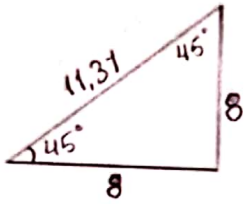

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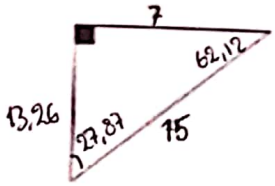

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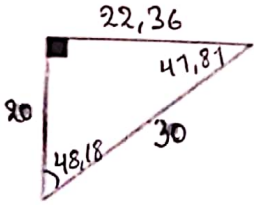

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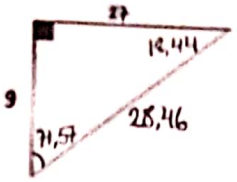

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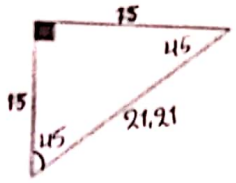

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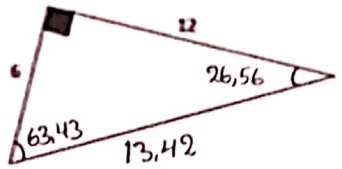

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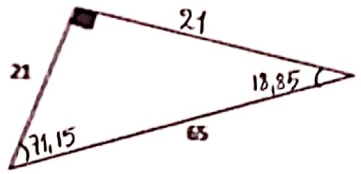

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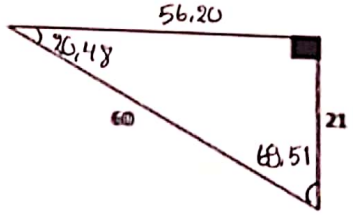

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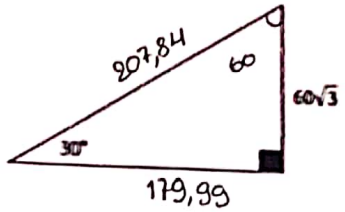

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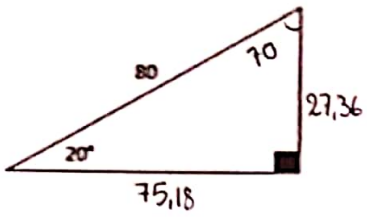

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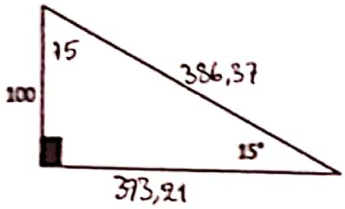

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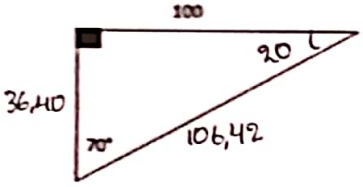

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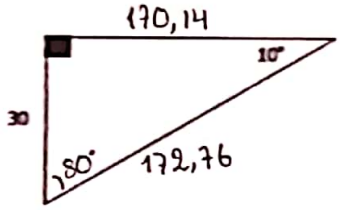

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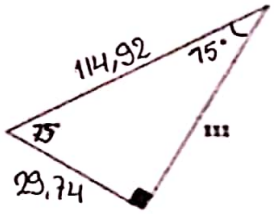

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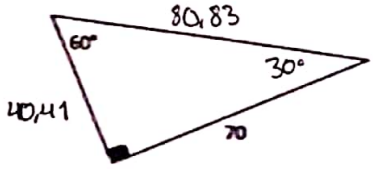

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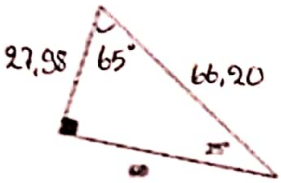

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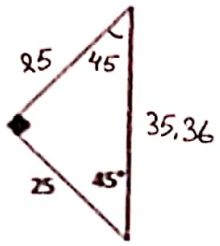

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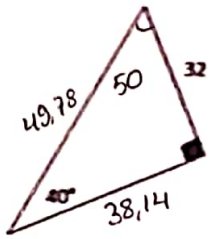

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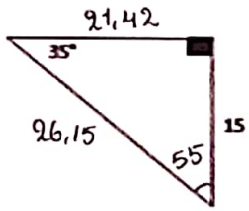

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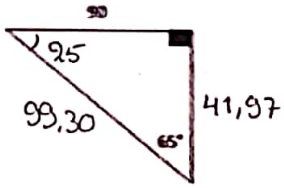

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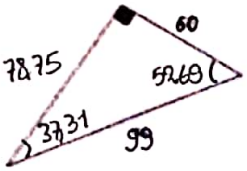

Triángulos en perspectiva / resolver - lados y ángulos

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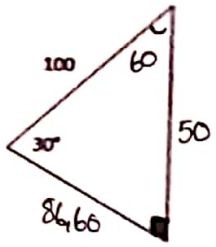

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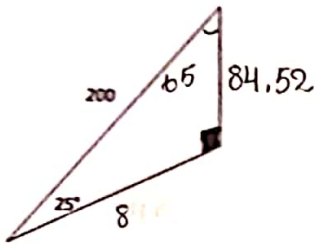

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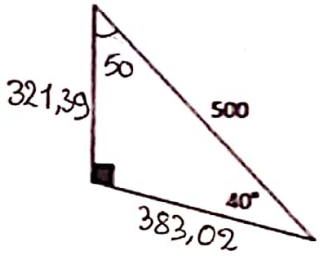

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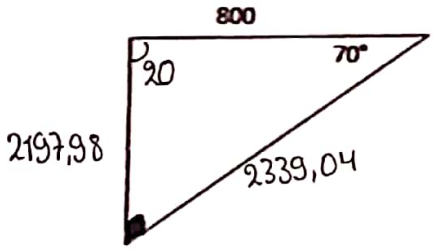

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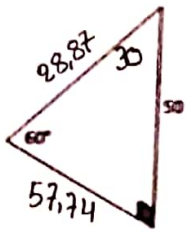

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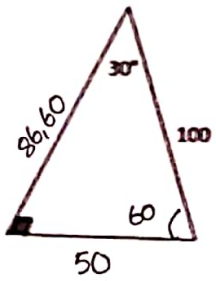

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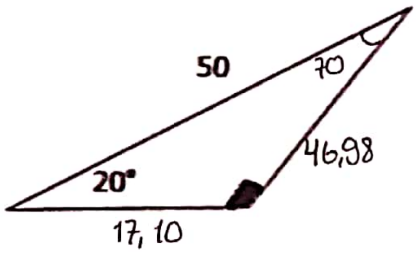

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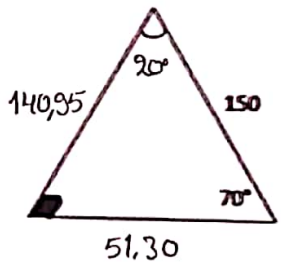

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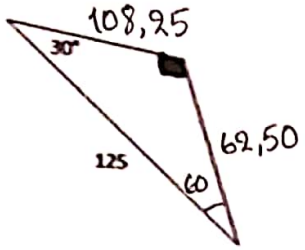

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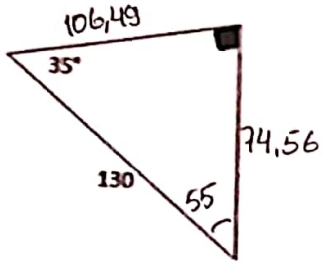

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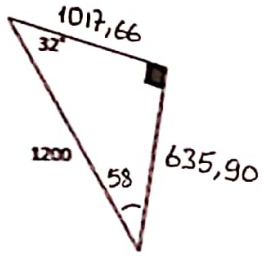

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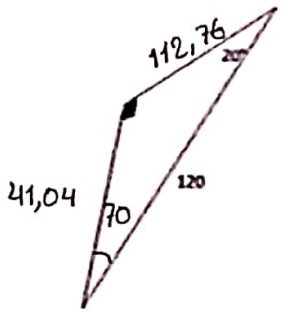

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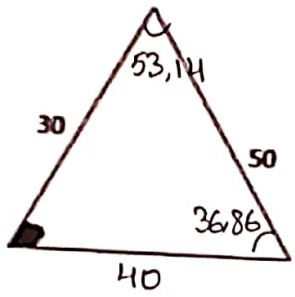

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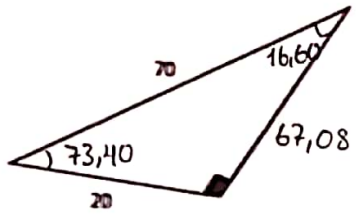

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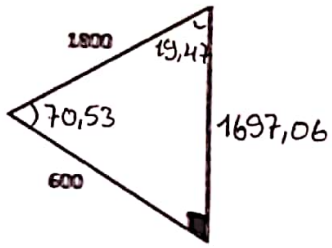

DÍA MES AÑO NOTA /

"La educación y la cortesía abren todas las puertas" Thomas Carlyle

Evidencias:

1) $c^2 = a^2 + b^2$ $c = \sqrt{4^2+3^2}$ $c = 5$ Se α = co/hip $\alpha = Sen^{-1}(3/5) = 36,87°$

2) $a = \sqrt{100^2 - 36^2} = 93,30$ $\cos\alpha$ = ca/hip $\alpha = \overset{con^{-1}}{36/100} = 68,90$

3) $b = \sqrt{200^2 - (100\sqrt{3})^2} = 100$ $\cos\alpha$ = CA/hip $\alpha = \cos^{-1}(100\sqrt{3}/200)$

12) $Sen\ 30 = \frac{60\sqrt{3}}{hip}$ $hip = \frac{60\sqrt{3}}{Sen30}$

25) $\cos 30° = \frac{b}{100}$ $b = \cos 30° \times 100$ $b = 86,60$ $a = \sqrt{100^2 - 86,60^2}$

$a = 50$

28) $\cos 70 = \frac{800}{h}$ $h = \frac{800}{\cos 70}$ $h = 2339,04$

$b = \sqrt{2339.04^2 - 800^2}$ $b = 2197,98$