

PROBLEMAS DE TRIGONOMETRÍA

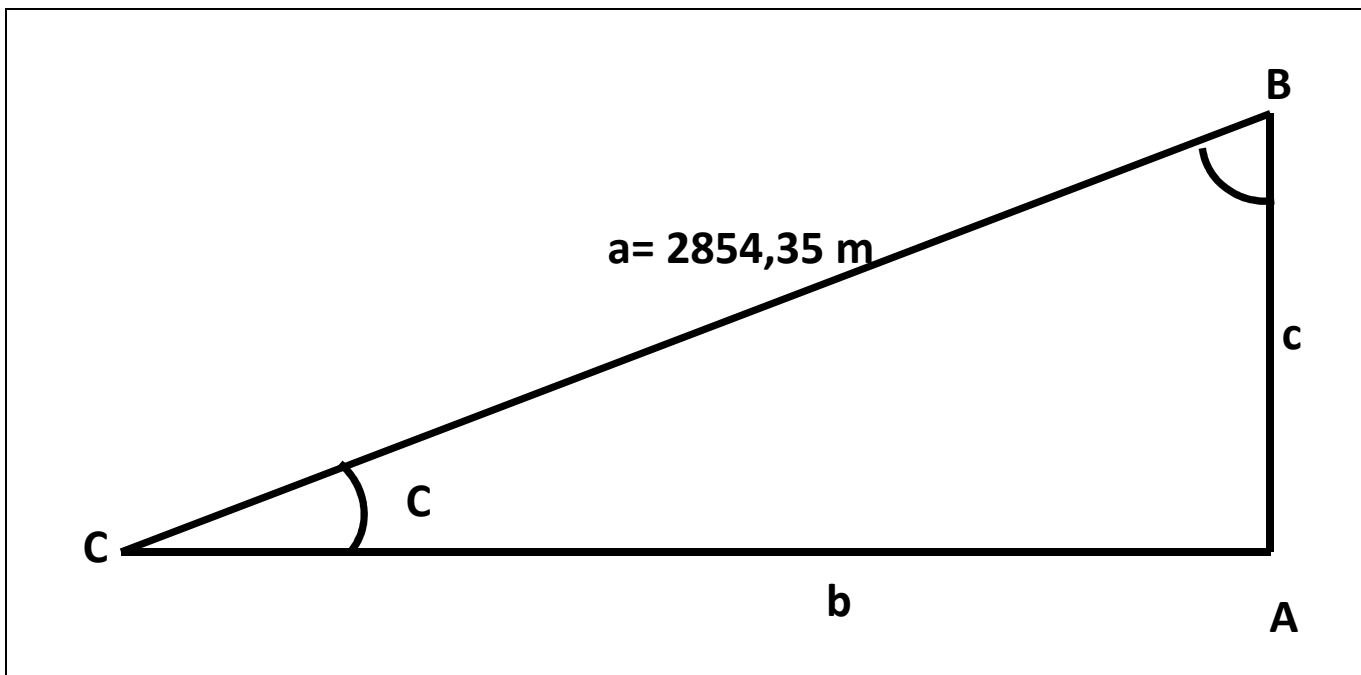
Problema 57:

Resolver un triángulo rectángulo con los siguientes datos:

$a = 2854,37$ m, $B/C = 1/7$

Solución Problema 57:

Hacemos el croquis:



Sabemos que:

$$\frac{B}{C} = \frac{1}{7}$$

$$C = 7B$$

Sabemos que:

$$B + C = 90^\circ$$

Sustituyendo el valor de C,

$$B + 7B = 90^\circ$$

$$8B = 90^\circ$$

$$B = \frac{90}{8} = 11^{\circ},25 = 11^{\circ}15'$$

Hallamos C:

$$C = 7B$$

$$C = 7 \times 11^{\circ},25 = 78^{\circ},75 = 78^{\circ}45'$$

$$\text{sen } C = \frac{c}{a}$$

$$\text{sen } 78^{\circ},75 = \frac{c}{2854,35}$$

$$c = 2854,35 \times \text{sen } 78^{\circ},75 = 2854,35 \times 0,9807 = \mathbf{2799,26 \text{ m}}$$

$$\text{cos } C = \frac{b}{a}$$

$$\text{cos } 78^{\circ},75 = \frac{b}{2854,35}$$

$$b = 2854,35 \times \text{cos } 78^{\circ},75 = 2854,35 \times 0,1950$$

$$b = \mathbf{556,598 \text{ m}}$$