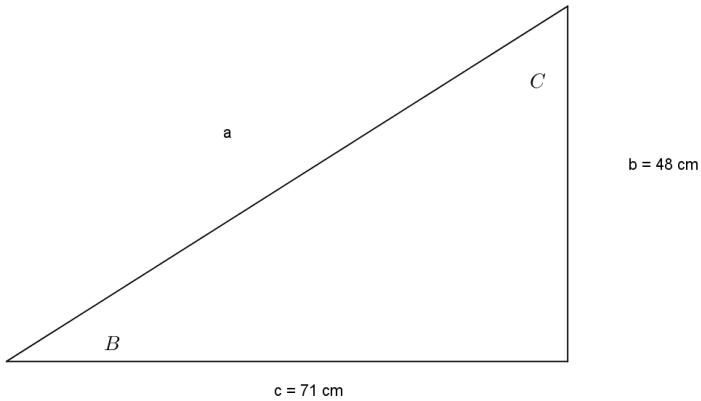


Resolución de triángulos rectángulos.

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Los dos catetos miden 48 cm y 71 cm



$$\operatorname{tg} B = \frac{\text{cat opuesto}}{\text{cat contiguo}} = \frac{48}{71} \rightarrow \hat{B} = \operatorname{arctg} \frac{48}{71} \rightarrow \hat{B} = 34^{\circ}06'09''$$

$$\operatorname{tg} C = \frac{\text{cat opuesto}}{\text{cat contiguo}} = \frac{71}{48} \rightarrow \hat{C} = \operatorname{arctg} \frac{71}{48} \rightarrow \hat{C} = 55^{\circ}9'39''$$

Comprobación: $90^{\circ} + 34^{\circ}06'09'' + 55^{\circ}9'39'' = 180^{\circ}$

$$\operatorname{sen} \hat{B} = \frac{\text{cat opuesto}}{\text{hipotenusa}} \rightarrow \operatorname{sen} 34^{\circ}06'09'' = \frac{48}{a} \rightarrow a \cdot \operatorname{sen} 34^{\circ}06'09'' = 48$$

$$a = \frac{48}{\operatorname{sen} 34^{\circ}06'09''} = 85^{\circ}70'30'' \text{cm}$$

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	$\text{sen } 37^\circ = \frac{87}{a} \rightarrow a \cdot \text{sen } 37^\circ = 87 \rightarrow a = \frac{87}{\text{sen } 37^\circ} = 144'5627m$ $\text{cos } 37^\circ = \frac{c}{a}$ $\text{tg } 37^\circ = \frac{87}{c} \rightarrow c \cdot \text{tg } 37^\circ = 87 \rightarrow c = \frac{87}{\text{tg } 37^\circ} = 115'4529m$ <p>Comprobación:</p> $144'5627^2 = 87^2 + 115'4529^2$ $20898'37 = 20898'37$
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3)

	$\text{sen } 22'5^\circ = \frac{10}{r} \rightarrow r \cdot \text{sen } 22'5^\circ = 10 \rightarrow r = \frac{10}{\text{sen } 22'5^\circ} = 26'1313cm$ $\text{tg } 22'5^\circ = \frac{10}{a} \rightarrow a \cdot \text{tg } 22'5^\circ = 10 \rightarrow a = \frac{10}{\text{tg } 22'5^\circ} = 24'1421cm$ <p>Solución: el radio mide 26'1313 cm y la apotema 24'1421 cm</p>
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4)

	$\text{sen } \frac{180^\circ}{7} = \frac{\text{lado}}{10}; \quad 10 \cdot \text{sen } \frac{180^\circ}{7} = \frac{\text{lado}}{2}$ $\text{lado} = 20 \cdot \text{sen } \frac{180^\circ}{7} = 8'6777cm$ $\text{cos } \frac{180^\circ}{7} = \frac{\text{apotema}}{10}; \quad \text{apotema} = 10 \cdot \text{cos } \frac{180^\circ}{7}$ $\text{apotema} = 9'0097cm$
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La apotema mide 9'0097 cm y el lado del heptágono mide 8'6777 cm.