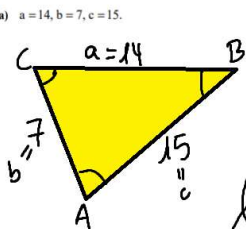


1.- Resuelve los siguientes triángulos (recuerda que esto significa decir cuánto miden los 3 lados y cuánto miden los 3 ángulos)

a) $a=14, b=7, c=15$.



Despejamos $\cos A$

Vamos a usar el teorema del coseno

$$a^2 = b^2 + c^2 - 2bc \cdot \cos A$$

$$b^2 = a^2 + c^2 - 2ac \cdot \cos B$$

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

$$14^2 = 7^2 + 15^2 - 2 \cdot 7 \cdot 15 \cdot \cos A$$

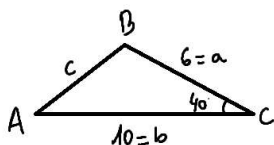
$$\cos A = \frac{7^2 + 15^2 - 14^2}{2 \cdot 7 \cdot 15} = 0'3714 \Rightarrow A = 68'196^\circ$$

$$7^2 = 14^2 + 15^2 - 2 \cdot 14 \cdot 15 \cos B$$

$$\cos B = \frac{14^2 + 15^2 - 7^2}{2 \cdot 14 \cdot 15} = 0'8857 \Rightarrow B = 27'66^\circ$$

$$C = 180 - A - B = 180 - 68'196 - 27'66 = 84'144^\circ$$

b) $a=6, b=10, C=40^\circ$.



Teorema del coseno

$$c^2 = 6^2 + 10^2 - 2 \cdot 6 \cdot 10 \cdot \cos 40$$

$$c^2 = 44'07 \Rightarrow c = \sqrt{44'07} = 6'64$$

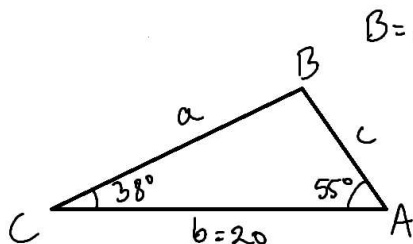
Teorema del seno

$$\frac{\sin 40}{6'64} = \frac{\sin A}{6} = \frac{\sin B}{10}$$

$$\frac{\sin 40}{6'64} = \frac{\sin A}{6} \Rightarrow \sin A = \frac{6 \cdot \sin 40}{6'64} = 0'58 \Rightarrow A = 35'51^\circ$$

$$B = 180 - A - C = 104'49^\circ$$

c) $b=20, A=55^\circ, C=38^\circ$.



$$B = 180 - A - C = 87^\circ$$

Teorema del seno

$$\frac{\sin 55}{a} = \frac{\sin 87}{20} = \frac{\sin 38}{c}$$

$$a = \frac{20 \cdot \sin 55}{\sin 87} \quad c = \frac{20 \cdot \sin 38}{\sin 87}$$

$$a = 16'41 \quad c = 12'33$$

2.- Extrae los factores que puedas de los radicales

a) $\sqrt[3]{8a^5}$ b) $\sqrt[4]{16a^7}$ c) $\sqrt{2^6 a^4 b^8}$ d) $\sqrt[4]{a^6 b^5 c^9}$ e) $\sqrt[5]{a^4 b^{10}}$

$$a) \sqrt[3]{8a^5} = \sqrt[3]{2^3 a^5} = 2 \cdot a \sqrt[3]{a^2}$$

$$b) \sqrt[4]{16a^7} = \sqrt[4]{2^4 a^7} = 2a \sqrt[4]{a^3}$$

$$c) \sqrt{2^6 a^4 b^8} = 2^3 a^2 b^4$$

$$d) \sqrt[4]{a^6 b^5 c^9} = abc^2 \sqrt[4]{a^2 b^1 c^1}$$

$$e) \sqrt[5]{a^6 b^{10}} = a b^2 \sqrt[5]{a}$$