

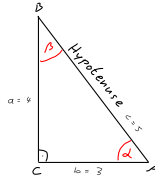
Sinns

Der Quotient aus der Gegenkathete und Hypotenuse heißt Sinus.

$$\sin = \frac{\text{Gegenkathete (GK)}}{\text{Hypotenuse (H)}}$$

$$\sin \alpha = \frac{GK}{H} = \frac{a}{c} = \frac{4}{5} = 0,8$$

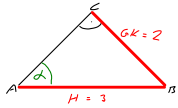
$$\hookrightarrow \alpha: 0,8 \quad \boxed{2nd} \quad \boxed{\sin^{-1}} \Rightarrow \underline{\underline{\alpha = 53,73^\circ}}$$



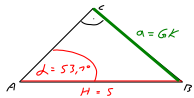
$$\sin \beta = \frac{GK}{H} = \frac{b}{c} = \frac{3}{5} = 0,6$$

$$\hookrightarrow \beta: 0,6 \quad \boxed{2nd} \quad \boxed{\sin^{-1}} \Rightarrow \underline{\underline{\beta = 36,87^\circ}}$$

Beispiele:



$$\sin \alpha = \frac{GK}{H} = \frac{2}{3} \Rightarrow \underline{\underline{\alpha = 47,8^\circ}}$$

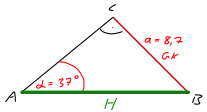


$$\sin \alpha = \frac{GK}{H}$$

$$\sin 53,7^\circ = \frac{GK}{5} \quad | \cdot 5$$

$$\sin 53,7^\circ \cdot 5 = GK \quad \boxed{53,7} \quad \boxed{\sin} \quad \boxed{\cdot} \quad \boxed{5}$$

$$0,8 \cdot 5 = \underline{\underline{4 \text{ cm}}}$$



$$\sin \alpha = \frac{GK}{H}$$

$$\sin 37^\circ = \frac{8,7}{H} \quad | \cdot H \quad | : \sin 37^\circ$$

$$H = 8,7 : \sin 37^\circ$$

$$H = \underline{\underline{14,5 \text{ cm}}}$$

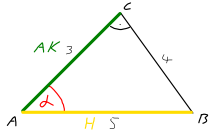
$$\boxed{8,7} \quad \boxed{:} \quad \boxed{37} \quad \boxed{\sin} \quad \boxed{=}$$

Der Sinus eines Winkels beschreibt das Verhältnis zwischen Gegenkathete und Hypotenuse.

Kosinus

27.03.23

Der Quotient aus Ankathete und Hypotenuse heisst Kosinus.

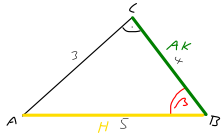


$$\cos \alpha = \frac{\text{Ankathete}}{\text{Hypotenuse}}$$

$$\cos \alpha = \frac{AK}{H} = \frac{3}{5} = 0,6$$

$$\hookrightarrow \cos^{-1} 0,6 \Rightarrow \underline{\underline{\alpha = 53,1^\circ}}$$

0,6 2nd cos



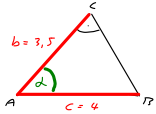
$$\cos \beta = \frac{AK}{H} = \frac{4}{5} = 0,8$$

$$\hookrightarrow \cos^{-1} 0,8 \Rightarrow \underline{\underline{\beta = 36,9^\circ}}$$

0,8 2nd cos

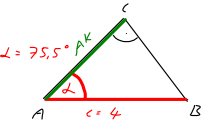
Beispiele:

- gesucht
- gegeben



$$\cos \alpha = \frac{3,5}{4} = 0,875 \quad \boxed{0,875} \quad \boxed{2nd} \quad \boxed{\cos}$$

$$\hookrightarrow \underline{\underline{\alpha = 28,96^\circ}}$$



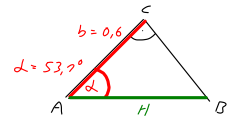
$$\alpha = 75,5^\circ$$

$$\cos \alpha = \frac{AK}{H}$$

$$\cos 75,5^\circ = \frac{AK}{4} \quad | \cdot 4$$

$$\cos 75,5^\circ \cdot 4 = AK$$

$$\underline{\underline{1 = AK = b}}$$



$$\alpha = 53,1^\circ$$

$$\cos \alpha = \frac{AK}{H}$$

$$\cos 53,1^\circ = \frac{0,6}{H} \quad | \cdot H \quad | : \cos 53,1^\circ$$

$$H = \frac{0,6}{\cos 53,1^\circ}$$

$$\underline{\underline{H = 1}}$$

Der Kosinus eines Winkels beschreibt das Verhältnis zwischen Ankathete und Hypotenuse