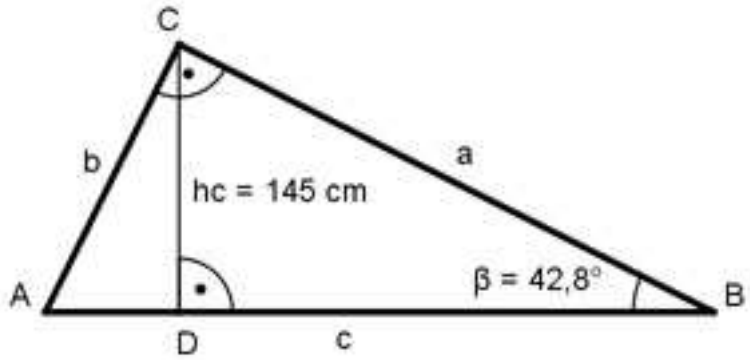
Trigonometrie Aufgabe 35

Berechnen Sie a, b und c.



$\alpha = 90° - \beta = 90° - 42{,}8° = 47{,}2°$

Im Dreieck DBC:

$$\sin\beta = \frac{h_c}{a} \mid *a$$

$$a * \sin\beta = h_c \mid :\sin\beta$$

$$\mathbf{a} = \frac{h_c}{\sin\beta} = \frac{145\text{ cm}}{0{,}6794} = \mathbf{213{,}4\text{ cm}}$$

Im Dreieck ABC:

$$\sin\alpha = \frac{a}{c} \mid *c$$

$$c * \sin\alpha = a \mid :\sin\alpha$$

$$\mathbf{c} = \frac{a}{\sin\alpha} = \frac{213{,}4\text{ cm}}{0{,}7337} = \mathbf{290{,}9\text{ cm}}$$

Im Dreieck ADC:

$$\sin\alpha = \frac{h_c}{b} \mid *b$$

$$b * \sin\alpha = h_c \mid :\sin\alpha$$

$$b = \frac{h_c}{\sin \alpha} = \frac{145 \text{ cm}}{0{,}7337} = \mathbf{197{,}6 \text{ cm}}$$