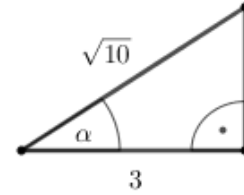


## Trigonometry of acute angles

**Task 1.** Calculate value of the trigonometric expression below, using data given in the figure.

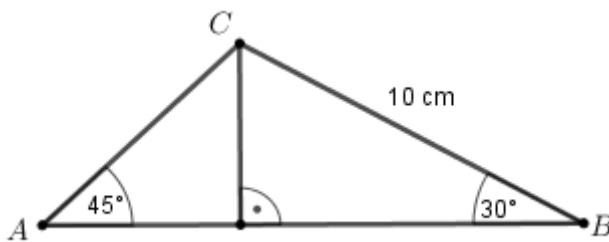
$$(\tan\alpha + 2\cot\alpha) \cdot \sin\alpha \cdot \cos\alpha =$$



**Task 2.** Calculate the expression below and write the answer in the simplest form.

$$(\operatorname{ctg}45^\circ + \operatorname{tg}60^\circ)(\cos60^\circ - \sin60^\circ) =$$

**Task 3.** Find the perimeter of the triangle ABC using data in the picture.



**Task 4.** An acute angle  $\alpha$  satisfies the equation  $\sin\alpha + \cos\alpha = \frac{6}{\sqrt{26}}$ . Calculate values of the following expressions: (a)  $\sin\alpha \cdot \cos\alpha$ , (b)  $\sin^4\alpha + \cos^4\alpha$ .