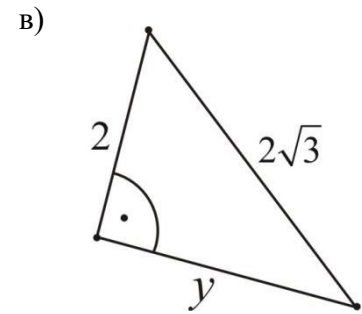
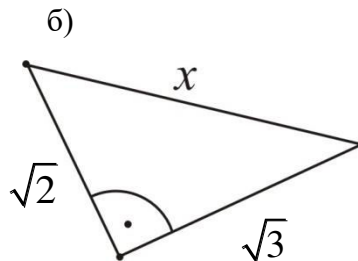
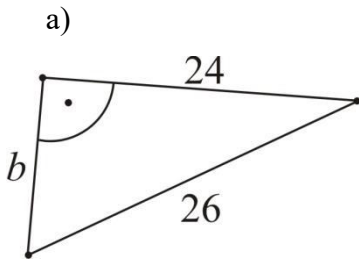


**Час број 25: Питагорина теорема - вежба**

**ЗАДАТАК 1 :** Израчунај непознату страну правоуглог троугла на слици . Дужине познатих страница дате су у сантиметрима.



$$\begin{aligned} \text{a) } 26^2 &= 24^2 + b^2 \\ 676 &= 576 + b^2 \\ b^2 &= 676 - 576 \\ b^2 &= 100 \\ b &= \sqrt{100} \\ \boxed{b = 10 \text{ cm}} \end{aligned}$$

$$\begin{aligned} \text{б) } x^2 &= (\sqrt{2})^2 + (\sqrt{3})^2 \\ x^2 &= \sqrt{4} + \sqrt{9} \\ x^2 &= 2 + 3 \\ x^2 &= 5 \\ \boxed{x = \sqrt{5} \text{ cm}} \end{aligned}$$

$$\begin{aligned} \text{в) } (2\sqrt{3})^2 &= 2^2 + y^2 \\ 4\sqrt{9} &= 4 + y^2 \\ 12 &= 4 + y^2 \\ y^2 &= 12 - 4 \\ y^2 &= 8 \\ y &= \sqrt{8} \\ \boxed{y = 2\sqrt{2} \text{ cm}} \end{aligned}$$

$$\sqrt{8} = \sqrt{4 \cdot 2} = \sqrt{4} \cdot \sqrt{2} = 2\sqrt{2}$$

**ЗАДАТАК 2 :** Израчунај обим правоуглог троугла ако је позната његова површина и једна катета:

$$P = 24 \text{ cm}^2, \quad a = 6 \text{ cm};$$

$$\begin{aligned} P &= 24 \text{ cm}^2 \\ a &= 6 \text{ cm} \\ O &= ? \end{aligned}$$

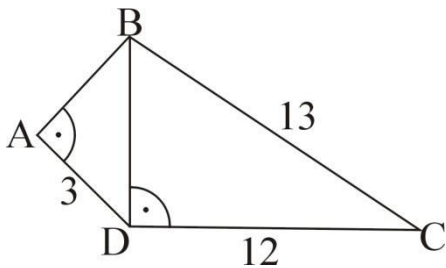
$$\begin{aligned} P &= \frac{a \cdot b}{2} \\ 24 &= \frac{6 \cdot b}{2} \\ 24 &= 3 \cdot b \\ b &= 24 : 3 \\ \boxed{b = 8 \text{ cm}} \end{aligned}$$

$$\begin{aligned} c^2 &= a^2 + b^2 \\ c^2 &= 8^2 + 6^2 \\ c^2 &= 64 + 36 \\ c^2 &= 100 \\ c &= \sqrt{100} \\ \boxed{c = 10 \text{ cm}} \end{aligned}$$

$$\begin{aligned} O &= a + b + c \\ O &= 6 + 8 + 10 \\ \boxed{O = 24 \text{ cm}} \end{aligned}$$

**ЗАДАТАК 3 :** Израчунати дужину АВ на слици. Дужине познатих страница дате су у центиметрима.

А)



$$BC^2 = DC^2 + DB^2$$

$$13^2 = 12^2 + DB^2$$

$$169 = 144 + DB^2$$

$$DB^2 = 169 - 144$$

$$DB^2 = 25$$

$$DB = \sqrt{25}$$

$$\boxed{DB = 5cm}$$

$$BD^2 = AB^2 + AD^2$$

$$5^2 = AB^2 + 3^2$$

$$25 = AB^2 + 9$$

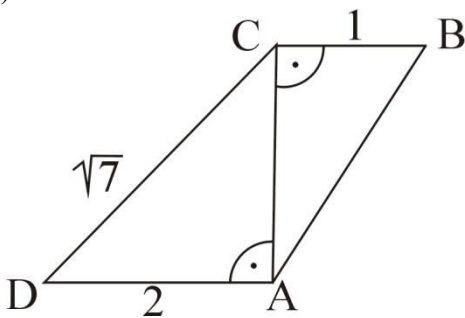
$$AB^2 = 25 - 9$$

$$AB^2 = 16$$

$$AB = \sqrt{16}$$

$$\boxed{AB = 4cm}$$

Б)



$$CD^2 = AD^2 + AC^2$$

$$(\sqrt{7})^2 = 2^2 + AC^2$$

$$7 = 4 + AC^2$$

$$AC^2 = 7 - 4$$

$$AC^2 = 3$$

$$\boxed{AC = \sqrt{3}cm}$$

$$AB^2 = AC^2 + BC^2$$

$$AB^2 = (\sqrt{3})^2 + 1^2$$

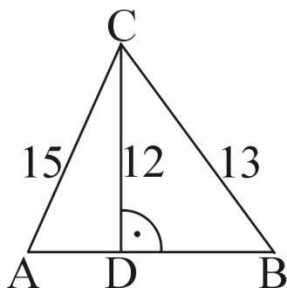
$$AB^2 = 3 + 1$$

$$AB^2 = 4$$

$$AB = \sqrt{4}$$

$$\boxed{AB = 2cm}$$

В)



$$AC^2 = AD^2 + DC^2$$

$$15^2 = 12^2 + AD^2$$

$$225 = 144 + AD^2$$

$$AD^2 = 225 - 144$$

$$AD^2 = 81$$

$$AD = \sqrt{81}$$

$$\boxed{AD = 9cm}$$

$$CB^2 = CD^2 + BD^2$$

$$13^2 = 12^2 + BD^2$$

$$169 = 144 + BD^2$$

$$BD^2 = 169 - 144$$

$$BD^2 = 25$$

$$BD = \sqrt{25}$$

$$\boxed{BD = 5cm}$$

$$AB = AD + BD$$

$$AB = 9 + 5$$

$$\boxed{AB = 14cm}$$

**Домаћи задатак:**

Збирка задатака:

**32. страна:**

5. задатак б)

9. 10..задатак.