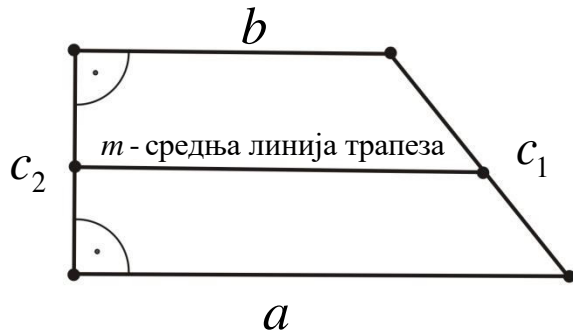


Час број 38. : Пимена Питагорине теореме на правоугли трапез



a, b – **основице** трапеза

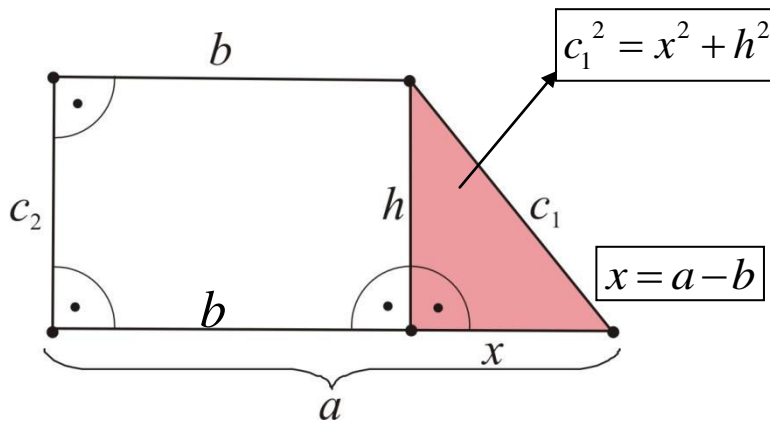
$$O = a + b + c_1 + c_2$$

m – **средња линија** трапеза

$$m = \frac{a+b}{2}$$

$$P = m \cdot h$$

$$P = \frac{a+b}{2} \cdot h$$

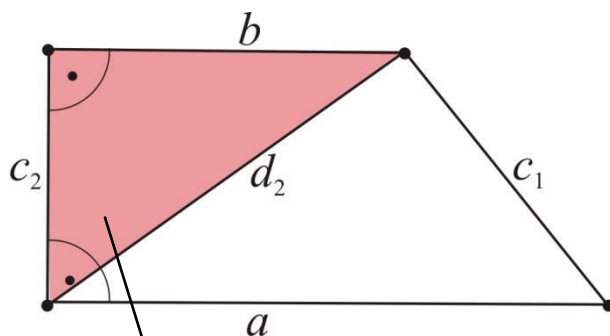


a, b – **основица** правоуглог трапеза

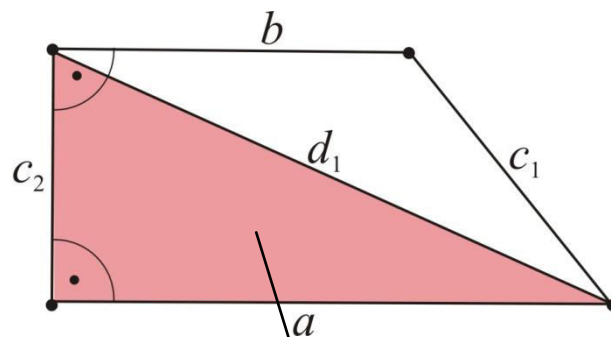
c_1, c_2 – **краци** правоуглог трапеза,

$$c_1 > c_2$$

d_1 и d_2 – **дијагонала** правоуглог трапеза

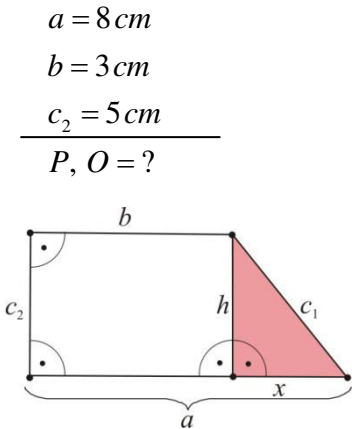


$$d_2^2 = b^2 + c_2^2$$



$$d_1^2 = a^2 + c_2^2$$

ЗАДАТАК 1: У правоуглом трапезу странице a и b су основице, странице c_1 и c_2 су краци $c_1 > c_2$, странице d_1 и d_2 дијагонале, P површина и O обим тог трапеза.



$$x = a - b$$

$$x = 8 - 3$$

$$x = 5 \text{ cm}$$

$$h = c_2$$

$$c_2 = 5 \text{ cm}$$

$$c_1^2 = x^2 + h^2$$

$$c_1^2 = 5^2 + 5^2$$

$$c_1^2 = 25 + 25$$

$$c_1^2 = 50$$

$$c_1 = \sqrt{50}$$

$$c_1 = \sqrt{25} \cdot \sqrt{2}$$

$$c_1 = 5\sqrt{2} \text{ cm}$$

$$P = \frac{a+b}{2} \cdot h$$

$$P = \frac{8+3}{2} \cdot 5$$

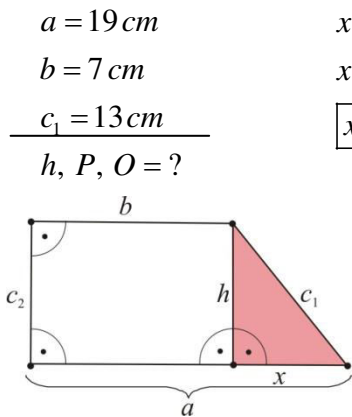
$$P = \frac{11}{2} \cdot 5$$

$$P = \frac{55}{2} \text{ cm}^2$$

$$O = a + b + c_1 + c_2$$

$$O = 8 + 3 + 5\sqrt{2} + 5$$

$$O = (16 + 5\sqrt{2}) \text{ cm}$$



$$x = a - b$$

$$x = 19 - 7$$

$$x = 12 \text{ cm}$$

$$c_1^2 = x^2 + h^2$$

$$13^2 = 12^2 + h^2$$

$$169 = 144 + h^2$$

$$h^2 = 169 - 144$$

$$h^2 = 25$$

$$h = \sqrt{25}$$

$$h = 5 \text{ cm}$$

$$P = \frac{a+b}{2} \cdot h$$

$$P = \frac{19+7}{2} \cdot 5$$

$$P = \frac{26}{2} \cdot 5$$

$$P = 13 \cdot 5$$

$$P = 65 \text{ cm}^2$$

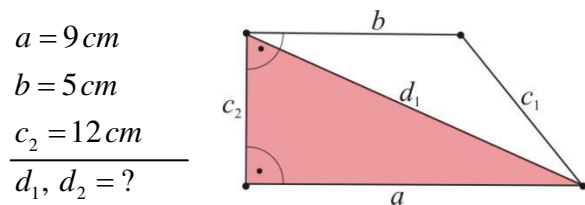
$$h = c_2$$

$$c_2 = 5 \text{ cm}$$

$$O = a + b + c_1 + c_2$$

$$O = 19 + 7 + 13 + 5$$

$$O = 44 \text{ cm}$$



$$d_1^2 = a^2 + c_2^2$$

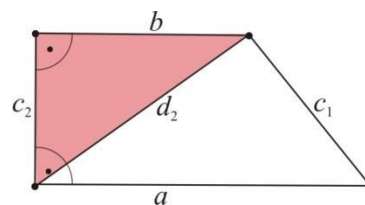
$$d_1^2 = 9^2 + 12^2$$

$$d_1^2 = 81 + 144$$

$$d_1^2 = 225$$

$$d_1 = \sqrt{225}$$

$$d_1 = 15 \text{ cm}$$



$$d_2^2 = b^2 + c_2^2$$

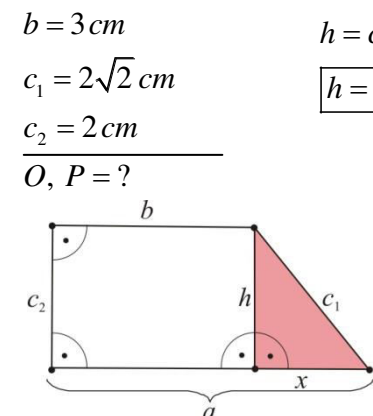
$$d_2^2 = 5^2 + 12^2$$

$$d_2^2 = 25 + 144$$

$$d_2^2 = 169$$

$$d_2 = \sqrt{169}$$

$$d_2 = 13 \text{ cm}$$



$$h = c_2$$

$$h = 2 \text{ cm}$$

$$c_1^2 = x^2 + h^2$$

$$(2\sqrt{2})^2 = x^2 + 2^2$$

$$4 \cdot \sqrt{4} = x^2 + 4$$

$$8 = x^2 + 4$$

$$x^2 = 8 - 4$$

$$x = \sqrt{4}$$

$$x = 2 \text{ cm}$$

$$x = a - b$$

$$2 = a - 3$$

$$a = 2 + 3$$

$$a = 5 \text{ cm}$$

$$O = a + b + c_1 + c_2$$

$$O = 5 + 3 + 2\sqrt{2} + 2$$

$$O = (10 + 2\sqrt{2}) \text{ cm}$$

$$P = \frac{a+b}{2} \cdot h$$

$$P = \frac{5+3}{2} \cdot 2$$

$$P = 8 \text{ cm}^2$$