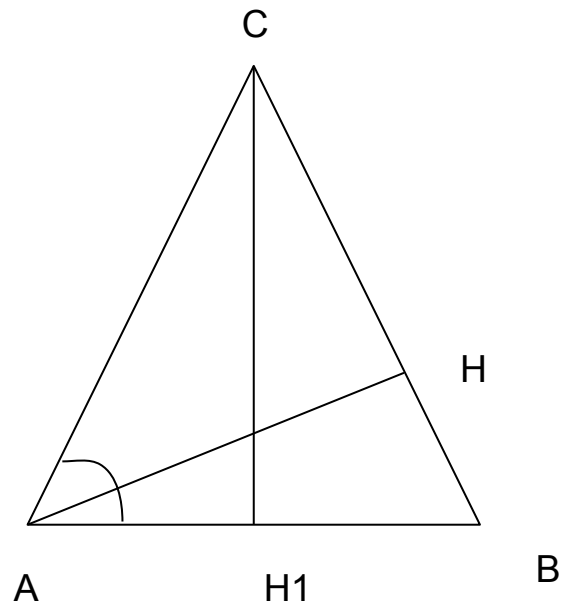


В треугольнике ABC $AC = BC$, AH — высота, $\operatorname{tg} BAC = \frac{24}{7}$. Найдите $\sin BAH$.



$$CH_1 = 24x$$

$$AH_1 = 7x$$

$$AC = \sqrt{576x^2 + 49x^2} = \sqrt{625x^2} = 25x = BC$$

$$AB = 14x$$

$$\sin BAH = HB/AB$$

$$S = \frac{1}{2} AB \cdot CH_1 = 7x \cdot 24x = 168x^2$$

$$168x^2 = \frac{1}{2} BC \cdot AH$$

$$AH = 168x^2 \cdot 2 / 25x = 336x/25$$

$$\begin{aligned} BH &= \sqrt{196x^2 - (336x)^2/625} = 2\sqrt{49x^2 - (168x)^2/625} = \\ &= 2x\sqrt{49 - 168^2/625} = 2x\sqrt{(7-168/25)(7+168/25)} = 2x\sqrt{7/25} \cdot \\ &343/25 = 2x/25\sqrt{7} \cdot 343 = 98x/25 \end{aligned}$$

$$\sin BAH = BH / AB = (98x/25) / 14x = 98x/25 \cdot 1/14x = 98 / 25 \cdot 14 = 7/25 = 0,28$$

$$\begin{aligned} \sqrt{49 \cdot 4x^2 - (168 \cdot 2x)^2/625} &= \sqrt{49 \cdot 4x^2 - 4 \cdot (168x)^2/625} = \\ &= 2\sqrt{49x^2 - (168x)^2/625} \end{aligned}$$

ОТВЕТ: 0,28