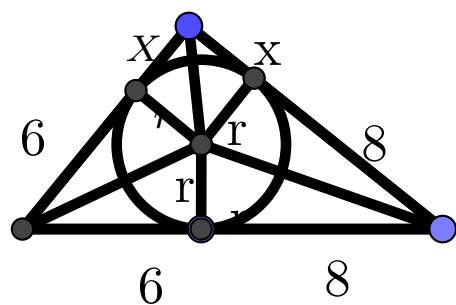


Planimetria - mieszanka zadań ciekawych ZI-TK

zadanie 20

Helena Nagy

3D



$$r = 4 \quad a = 14 \quad b = 6 + x \quad c = 8 + x$$

$$P_1 = \frac{8 \cdot 4}{2} \cdot 2 + \frac{6 \cdot 4}{2} \cdot 2 + \frac{x \cdot 4}{2} \cdot 2 = 32 + 24 + 4x = 56 + 4x$$

$$P_2 = \sqrt{p(p-a)(p-b)(p-c)}$$

$$p = \frac{a+b+c}{2}$$

$$p = \frac{14 + 6 + x + 8 + x}{2} = 14 + x$$

$$P_2 = \sqrt{(14 + x)(14 + x - 14)(14 + x - 6 - x)(14 + x - 8 - x)} = \sqrt{48x^2 + 672x}$$

$$P_1 = P_2$$

$$56 + 4x = \sqrt{48x^2 + 672x}$$

$$16x^2 + 448x + 3136 = 48x^2 + 672x$$

$$32x^2 + 224x - 3136 = 0$$

$$x^2 + 7x - 98 = 0$$

$$(x + 14)(x - 7) = 0$$

$$x = -14 \vee x = 7$$

$$x > 0 \rightarrow x = 7$$

$$a = 14 \quad b = 13 \quad c = 15$$