

NR. 2FA2F

$$\underbrace{\sqrt{7+2\sqrt{10}}}_m - \underbrace{\sqrt{5-2\sqrt{6}}}_n = A \quad \left. \vphantom{\sqrt{7+2\sqrt{10}}} \right\} (a \pm b)^2 = a^2 \pm 2ab + b^2$$

$$m = \sqrt{7+2\sqrt{10}} = \sqrt{5+2\sqrt{5 \cdot 2}+2} = \\ = \sqrt{(\sqrt{5})^2 + 2\sqrt{5} \cdot \sqrt{2} + (\sqrt{2})^2} = \sqrt{(\sqrt{5} + \sqrt{2})^2} = |\sqrt{5} + \sqrt{2}|$$

$$\sqrt{5} + \sqrt{2} > 0 \Rightarrow m = \sqrt{5} + \sqrt{2}$$

$$n = \sqrt{5-2\sqrt{6}} = \sqrt{5-2\sqrt{3 \cdot 2}} = \sqrt{(\sqrt{3})^2 - 2\sqrt{3}\sqrt{2} + (\sqrt{2})^2} = \\ = \sqrt{(\sqrt{3} - \sqrt{2})^2} = |\sqrt{3} - \sqrt{2}|$$

$$3 > 2 \Rightarrow \sqrt{3} > \sqrt{2} \Rightarrow \sqrt{3} - \sqrt{2} > 0 \Rightarrow n = \sqrt{3} - \sqrt{2}$$

$$A = \sqrt{5} + \sqrt{2} - (\sqrt{3} - \sqrt{2}) = \sqrt{5} + \sqrt{2} - \sqrt{3} + \sqrt{2}$$

$$A = \sqrt{5} - \sqrt{3} + 2\sqrt{2} \quad \left\{ \begin{array}{l} \sqrt{A \pm \sqrt{B}} = \sqrt{\frac{A + \sqrt{A^2 - B}}{2}} \pm \sqrt{\frac{A - \sqrt{A^2 - B}}{2}} \\ B \geq 0, A^2 \geq B \end{array} \right.$$

$$\sqrt{11+6\sqrt{2}} = \sqrt{11+\sqrt{72}} = \sqrt{\frac{11+\sqrt{121-72}}{2}} + \sqrt{\frac{11-\sqrt{121-72}}{2}} =$$

$$= \sqrt{\frac{11+\sqrt{49}}{2}} + \sqrt{\frac{11-\sqrt{49}}{2}} = \sqrt{\frac{11+7}{2}} + \sqrt{\frac{11-7}{2}} = \sqrt{9} + \sqrt{2} = 3 + \sqrt{2}$$

$$A = \{x \mid x = 2k+1, k \in \mathbb{Z}\} \\ B = \{x \mid x = 201 - 2p, p \in \mathbb{Z}\} \Rightarrow A \cap B = ?$$

$$(\forall) k \in \mathbb{Z} \Rightarrow 2k+1 = m. \text{impar}$$

$$(\forall) p \in \mathbb{Z} \Rightarrow 2p = m. \text{par} \quad \left. \begin{array}{l} 201 - 2p = m. \text{impar} \\ 201 = m. \text{impar} \end{array} \right\} \Rightarrow m. \text{impar} - m. \text{par} = \text{impar}$$

$$\Rightarrow A = B = \{x \mid x = 2k+1, k \in \mathbb{Z}\} \Rightarrow$$

$$A \cap B = A$$

$$A = \{m \in \mathbb{N} \mid \frac{13}{2m-1} \in \mathbb{N}\}$$

$$B = \{m \in \mathbb{Z} \mid \frac{5m+1}{5m-1} \in \mathbb{Z}\}$$

$$C = \{m \in \mathbb{Z} \mid \frac{2m+3}{3m-1} \in \mathbb{Z}\}$$

$$\text{Tema - m 2000: } \left. \begin{array}{l} \text{T8 / Pg 12} \\ E 9 A c, 11 del / Pg 33 \end{array} \right\}$$

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