Задача 6

Упростить выражение $X = (B \to A) \cdot \overline{(A + B)} \cdot (A \to C)$

$$X = (B \to A) \cdot \overline{(A+B)} \cdot (A \to C) = (!B + A) \cdot !A \cdot !B \cdot (!A + C) =$$

$$= (!A \cdot !B + A \cdot !A) \cdot !B \cdot (!A + C) =$$

$$= (!A \cdot !B + 0) \cdot !B \cdot (!A + C) = !A \cdot !B \cdot !B \cdot (!A + C) =$$

$$= !A \cdot !B \cdot (!A + C) = !A \cdot !B \cdot !A + !A \cdot !B \cdot C =$$

$$= !A \cdot !B \cdot (1 + C) = !A \cdot !B \cdot 1 = !A \cdot !B$$

Ответ: $\boxed{X = !A \cdot !B}$