Самостоятельная работа №4
КНФ, ДНФ, СКНФ, СДНФ

Построить СКНФ, СДНФ и упростить их:

1. СКНФ

   $\bar{x} \vee y$

   СДНФ

   $\bar{x} \wedge \bar{y} \vee \bar{x} \wedge y \vee x \wedge y = \bar{x} \wedge \bar{y} \vee y = y \vee \bar{x}$

2. СКНФ

   $(x \vee y) \wedge (x \vee \bar{y}) \wedge (\bar{x} \vee \bar{y}) = (x \vee x \wedge \bar{y} \vee x \wedge y) \wedge (\bar{x} \vee y) = x \wedge (\bar{x} \vee \bar{y}) = x \wedge \bar{y}$

   СДНФ

   $x \wedge \bar{y}$

3. СКНФ

   $(x \vee y \vee \bar{z}) \wedge (x \vee \bar{y} \vee z) \wedge (\bar{x} \vee y \vee \bar{z}) \wedge (\bar{x} \vee \bar{y} \vee \bar{z}) =$

   $(x \vee x \wedge \bar{y} \vee x \wedge z \vee x \wedge y \vee y \wedge z \vee x \wedge \bar{z} \vee \bar{y} \wedge \bar{z}) \wedge (\bar{x} \vee y \vee \bar{z}) \wedge (\bar{x} \vee \bar{y} \vee \bar{z}) =$

   $(x \vee y \wedge z \vee \bar{y} \wedge \bar{z}) \wedge (\bar{x} \vee y \vee \bar{z}) \wedge (\bar{x} \vee \bar{y} \vee \bar{z}) =$

   $(x \wedge y \vee x \wedge \bar{z} \vee \bar{x} \wedge y \wedge z \vee y \wedge z \vee \bar{x} \wedge \bar{y} \wedge \bar{z} \vee \bar{y} \wedge \bar{z}) \wedge (\bar{x} \vee \bar{y} \vee \bar{z}) =$

   $(x \wedge y \vee x \wedge \bar{z} \vee y \wedge z \vee \bar{y} \wedge \bar{z}) \wedge (\bar{x} \vee \bar{y} \vee \bar{z}) =$

   $x \wedge y \wedge \bar{z} \vee x \wedge \bar{y} \wedge \bar{z} \vee x \wedge \bar{z} \vee \bar{x} \wedge y \wedge z \vee \bar{x} \wedge \bar{y} \wedge \bar{z} \vee \bar{y} \wedge \bar{z} =$

   $x \wedge \bar{z} \vee \bar{x} \wedge y \wedge z \vee \bar{y} \wedge \bar{z}$

   СДНФ

   $\bar{x} \wedge \bar{y} \wedge \bar{z} \vee \bar{x} \wedge y \wedge z \vee x \wedge \bar{y} \wedge \bar{z} \vee x \wedge y \wedge \bar{z} =$

   $\bar{x} \wedge \bar{y} \wedge \bar{z} \vee x \wedge \bar{y} \wedge \bar{z} \vee \bar{x} \wedge y \wedge z \vee x \wedge y \wedge \bar{z} =$

   $\bar{y} \wedge \bar{z} \wedge (\bar{x} \vee x) \vee \bar{x} \wedge y \wedge z \vee x \wedge y \wedge \bar{z} =$

   $\bar{y} \wedge \bar{z} \vee \bar{x} \wedge y \wedge z \vee x \wedge y \wedge \bar{z} =$

   $\bar{y} \wedge \bar{z} \vee x \wedge y \wedge \bar{z} \vee \bar{x} \wedge y \wedge z =$

   $\bar{z} \wedge (\bar{y} \vee x \wedge y) \vee \bar{x} \wedge y \wedge z =$

   $\bar{y} \wedge \bar{z} \vee x \wedge \bar{z} \vee \bar{x} \wedge y \wedge z$