$$\forall n \in \mathbb{N}+;\ B - \cap(A_1..A_n) = \cup((B - A_1)..(B - A_n))$$

$$n = 1 \Rightarrow B - (A_1 \cap A_1) = B - A_1 = (B - A_1) \cup (B - A_1)$$

$$\begin{aligned}
&n = 2 \Rightarrow B - (A_1 \cap A_2) = \\
&\quad \{x \mid x \in B \wedge x \in \{y \mid y \in A_1 \wedge y \in A_2\}\} = \\
&\quad \{x \mid x \in B \wedge (x \notin A_1 \vee x \notin A_2)\} = \\
&\quad (B - A_1) \cup (B - A_2)
\end{aligned}$$

$$\begin{aligned}
&n = k + 1 \Rightarrow B - \cap(A_1..A_{k+1}) = && (assoc \cap) \\
&\quad B - (\cap(A_1..A_k) \cap A_{k+1}) = && (n = 2) \\
&\quad (B - \cap(A_1..A_k)) \cup (B - A_{k+1}) = && (ind.\ hyp.) \\
&\quad \cup((B - A_1)..(B - A_k)) \cup (B - A_{k+1}) = && (assoc \cup) \\
&\quad \cup((B - A_1)..(B - A_{k+1}))
\end{aligned}$$

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$$\forall n \in \mathbb{N}+;\ B - \cup(A_1..A_n) = \cap((B - A_1)..(B - A_n))$$

$$n = 1 \Rightarrow B - (A_1 \cup A_1) = B - A_1 = (B - A_1) \cap (B - A_1)$$

$$\begin{aligned}
&n = 2 \Rightarrow B - (A_1 \cup A_2) = \\
&\quad \{x \mid x \in B \wedge x \notin A_1 \wedge x \notin A_2\} = \\
&\quad \{x \mid x \in B \wedge x \notin A_1 \wedge x \in B \wedge x \notin A_2\} = \\
&\quad \{x \mid (x \in B \wedge x \notin A_1) \wedge (x \in B \wedge x \notin A_2)\} = \\
&\quad (B - A_1) \cap (B - A_2)
\end{aligned}$$

$$\begin{aligned}
&n = k + 1 \Rightarrow B - \cup(A_1..A_{k+1}) = && (assoc \cup) \\
&\quad B - (\cup(A_1..A_k) \cup A_{k+1}) = && (n = 2) \\
&\quad (B - \cup(A_1..A_k)) \cap (B - A_{k+1}) = && (ind.\ hyp.) \\
&\quad \cap((B - A_1)..(B - A_k)) \cap (B - A_{k+1}) = && (assoc \cap) \\
&\quad \cap((B - A_1)..(B - A_{k+1}))
\end{aligned}$$

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