

$$\begin{array}{ccccc}
 ((b \diamond c) \diamond d) \diamond e & \longrightarrow & (b \diamond (c \diamond d)) \diamond e & \longrightarrow & b \diamond ((c \diamond d) \diamond e) \\
 \downarrow & & & & \downarrow \\
 (b \diamond d) \diamond (d \diamond e) & \longrightarrow & b \diamond (c \diamond (d \diamond e)) & & c \diamond d
 \end{array}$$

The diagram illustrates a sequence of transformations and mappings between expressions involving the diamond operator (\diamond). The top row shows a sequence of three expressions: $((b \diamond c) \diamond d) \diamond e$, $(b \diamond (c \diamond d)) \diamond e$, and $b \diamond ((c \diamond d) \diamond e)$, connected by right-pointing arrows. The bottom row shows two expressions: $(b \diamond d) \diamond (d \diamond e)$ and $b \diamond (c \diamond (d \diamond e))$, also connected by a right-pointing arrow. A third expression, $c \diamond d$, is positioned to the right of the bottom row. Vertical arrows point from the first and second expressions of the top row to the first and second expressions of the bottom row, respectively. Additionally, two diagonal arrows point from the third expression of the top row to the $c \diamond d$ expression: one from the left and one from the right.