

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

The diagram illustrates a series of transformations involving the diamond operator (\diamond). The top row shows 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 rightward arrows. The bottom row shows $(b \diamond d) \diamond (d \diamond e)$, $b \diamond (c \diamond (d \diamond e))$, and $c \diamond d$, also connected by rightward arrows. Vertical arrows point from the first two expressions of the top row to those of the bottom row. Additionally, a diagonal arrow points from $(c \diamond I) \diamond d$ (which is positioned above the rightmost expression of the top row) down to $c \diamond d$, and another diagonal arrow points from $c \diamond (I \diamond d)$ (positioned to the right of the top row) down to $c \diamond d$.