

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

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 right-pointing arrows. The middle row shows $(b \diamond d) \diamond (d \diamond e)$ and $b \diamond (c \diamond (d \diamond e))$, also connected by a right-pointing arrow. A vertical arrow points down from $((b \diamond c) \diamond d) \diamond e$ to $(b \diamond d) \diamond (d \diamond e)$. Another vertical arrow points down from $(b \diamond (c \diamond d)) \diamond e$ to $b \diamond (c \diamond (d \diamond e))$. A diagonal arrow points down from $b \diamond ((c \diamond d) \diamond e)$ to $c \diamond d$. A second diagonal arrow points down from $(c \diamond I) \diamond d$ to $c \diamond d$.