

$$\begin{array}{ccc}
 A & \xrightarrow{g} & B \\
 \alpha \downarrow & \circlearrowleft & \downarrow \beta \\
 X & \xrightarrow{f} & Y
 \end{array}
 \quad \begin{array}{l}
 \in \mathbf{mod}_R \\
 \\
 \text{“pure”}
 \end{array}$$

The diagram illustrates a commutative square in the module category \mathbf{mod}_R . The top row consists of objects A and B connected by a horizontal arrow g . The bottom row consists of objects X and Y connected by a horizontal arrow f . A vertical arrow α points from A down to X , and another vertical arrow β points from B down to Y . A dashed diagonal arrow s points from A down to Y . A curved arrow \circlearrowleft is positioned in the center of the square, indicating a commutative relationship between the paths $A \xrightarrow{g} B \xrightarrow{\beta} Y$ and $A \xrightarrow{s} Y$.