## Group Tables for Symmetry Groups

Complete the group tables (Cayley tables) for the groups of symmetries of the triangle, rectangle, and square. Remember to read products of symmetries from right to left.

Symmetries of a triangle

|  | $\mathbf{R}_{\mathbf{0}}$ | $\mathbf{R}_{\mathbf{1 2 0}}$ | $\mathbf{R}_{240}$ | $\mathbf{F}_{<}$ | $\mathbf{F}_{>}$ | $\mathbf{F}_{\wedge}$ |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{R}_{\mathbf{0}}$ |  |  |  |  |  |  |
| $\mathbf{R}_{\mathbf{1 2 0}}$ |  |  |  | $\mathbf{F}_{\wedge}$ |  |  |
| $\mathbf{R}_{240}$ |  |  |  |  |  |  |
| $\mathbf{F}_{<}$ |  |  |  |  |  |  |
| $\mathbf{F}_{>}$ |  |  |  |  |  |  |
| $\mathbf{F}_{\wedge}$ |  |  |  |  |  |  |

Symmetries of a rectangle

|  | $\mathbf{R}_{\mathbf{0}}$ | $\mathbf{R}_{180}$ | $\mathbf{V}$ | $\mathbf{H}$ |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{R}_{\mathbf{0}}$ |  |  |  |  |
| $\mathbf{R}_{180}$ |  |  |  |  |
| $\mathbf{V}$ |  |  |  |  |
| $\mathbf{H}$ |  |  |  |  |

Symmetries of a square

|  | $\mathbf{R}_{\mathbf{0}}$ | $\mathbf{R}_{\mathbf{9 0}}$ | $\mathbf{R}_{\mathbf{1 8 0}}$ | $\mathbf{R}_{270}$ | $\mathbf{H}$ | $\mathbf{V}$ | $\mathbf{D}_{\backslash}$ | $\mathbf{D}_{/}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{R}_{\mathbf{0}}$ |  |  |  |  |  |  |  |  |
| $\mathbf{R}_{\mathbf{9}}$ |  |  |  |  |  |  |  |  |
| $\mathbf{R}_{\mathbf{1 8 0}}$ |  |  |  |  |  | $\mathbf{H}$ |  |  |
| $\mathbf{R}_{\mathbf{2 7 0}}$ |  |  |  |  |  |  |  |  |
| $\mathbf{H}$ |  |  |  |  |  |  |  |  |
| $\mathbf{V}$ |  |  |  |  |  |  |  |  |
| $\mathbf{D}$ |  |  |  |  |  |  |  |  |
| $\mathbf{D}_{/}$ |  |  |  |  |  |  |  |  |

