# EXPLORING RIBBONWORK (PART B)

### Reflect Over the $y$-Axis

The transformation from the preimage in Quadrant I to *image 2* in Quadrant II is known as a **reflection over the $y$-axis**. Write the coordinates for each corresponding point to complete the table.

| Preimage | Image 2 |
|---|---|
| $A(1, 0)$ | $A'(\quad)$ |
| $B(1, 1)$ | $B'(\quad)$ |
| $C(2, 1)$ | $C'(\quad)$ |
| $D(2, 2)$ | $D'(\quad)$ |
| $E(3, 2)$ | $E'(\quad)$ |
| $F(3, 3)$ | $F'(\quad)$ |
| $G(9, 0)$ | $G'(\quad)$ |

*Look for a pattern between the first column and second column.*

Does the $x$-value change? If so, describe the change.

Does the $y$-value change? If so, describe the change.

**4)** Do your descriptions above for how $x$ and $y$ change hold true when *image 4* is reflected over the $y$-axis to get *image 3*? Explain.

**5)** Do your descriptions above for how $x$ and $y$ change hold true when *image 2* is reflected over the $x$-axis to get *image 3*? Explain.

## Reflect Over the $x$-Axis

There must be a different pattern to follow when a figure is **reflected over the $x$-axis**. Select any two images that are a reflection over the $x$-axis and complete the table below.

| Image #__ | Image #__ | Do your best to describe the pattern of how the coordinates change from the first column to the second column. |
|---|---|---|
| | | |
| | | |
| | | |
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| | | |
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| | | |

**6)** Does your description apply to the other pair of reflections over the $x$-axis? Explain.

**7)** What else do you think we could reflect a figure over?