|  |  |
| --- | --- |
| **Fill in the Blanks** | **Enlargements and Stretches** |

Triangle $ABC$ has coordinates $A(1, 0) B(5, 0) C(4, 6)$ and area $12$ square units

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Matrix** | **Description of Transformation** | **Area Scale Factor** | **A’** | **B’** | **C’** | **Area of A’B’C’** |
| $$\left(\begin{matrix}3&0\\0&1\end{matrix}\right)$$ | Stretch parallel to the $x$-axis with scale factor $3$ | $$3$$ | $$(3, 0)$$ | $$(15, 0)$$ | $$(12,6)$$ | $$36$$ |
| $$\left(\begin{matrix}1&0\\0&5\end{matrix}\right)$$ |  | $$5$$ | $$(1, 0)$$ |  |  |  |
|  | Enlargement about $(0, 0)$ with scale factor $2$ |  |  |  |  |  |
| $$\left(\begin{matrix}4&0\\0&2\end{matrix}\right)$$ |  |  |  |  |  |  |
| $$\left(\begin{matrix}-3&0\\0&-3\end{matrix}\right)$$ |  | $$9$$ |  |  |  |  |
|  |  |  | $$(1, 0)$$ | $$(5, 0)$$ | $$(4, -3)$$ |  |
|  |  |  | $$(2, 0)$$ | $$(10, 0)$$ | $$(8, -18)$$ |  |
| $$\left(\begin{matrix}-1&0\\0&2.5\end{matrix}\right)$$ |  |  |  |  |  |  |