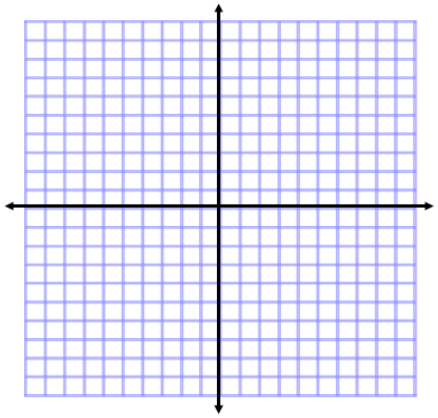
Functions Name_____
Lesson 2.4

Topic: _____

Activity 1.
Take notes and do 3, 4, (worksheet) and 15, 17on p. 94.

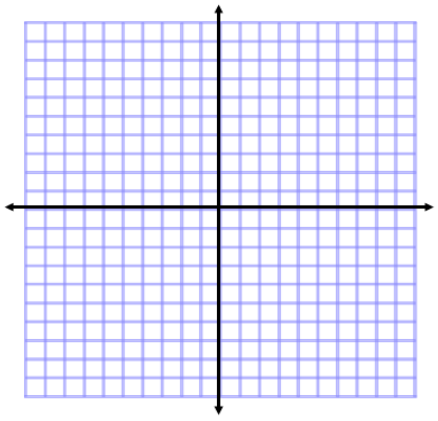


Translation

Example 1 Translation

Determine the coordinates of the vertices of the image of quadrilateral *ABCD* with *A*(–5, –1), *B*(–2, –1), *C*(–1, –4), and *D*(–3, –5), if it is translated 3 units to the right and 4 units up. Then graph *ABCD* and its image *A′B′C′D′*.

Answer:



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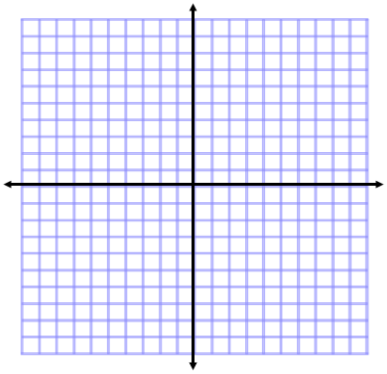

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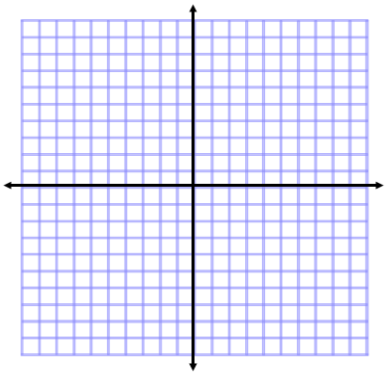

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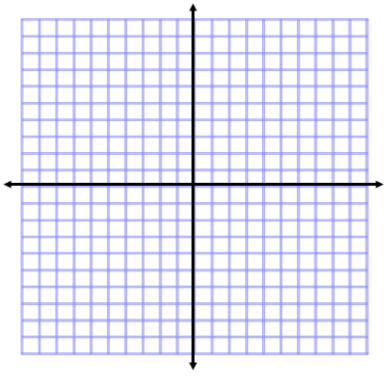

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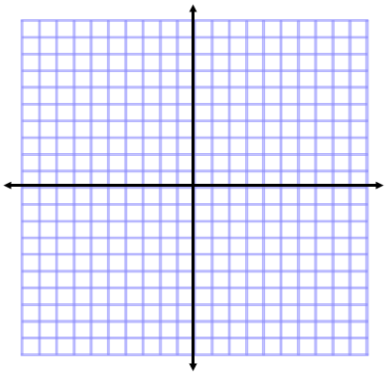


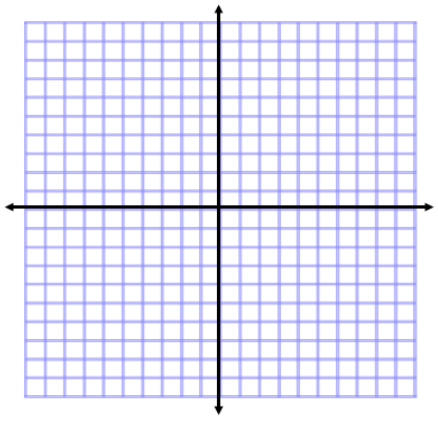
Activity 2.

Take notes and do 1, 2, (worksheet) and 11, 13 on p. 93

Dilations

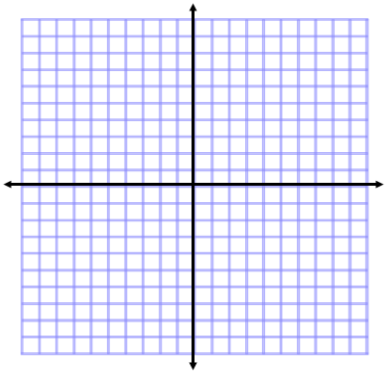
Example 2 Dilation

ΔXYZ has vertices $X(1, 2)$, $Y(3, -1)$, and $Z(-1, -2)$. Dilate ΔXYZ so that its perimeter is twice the original perimeter. Find the coordinates of the vertices of $\Delta X'Y'Z'$. Then graph ΔXYZ and $\Delta X'Y'Z'$



Answer:

1.



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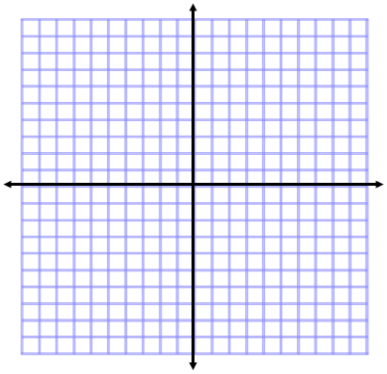

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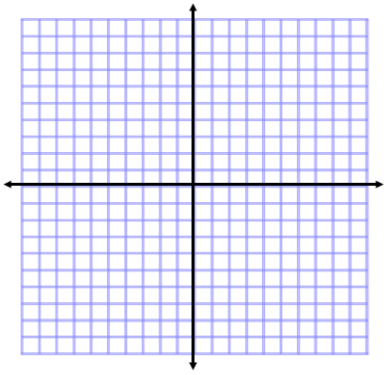

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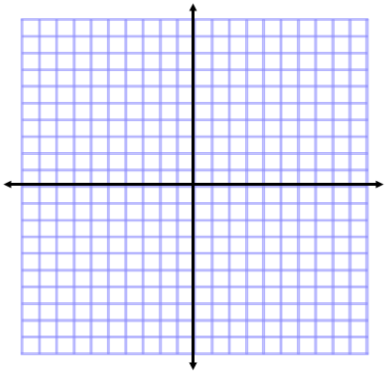


<u>Activity 3.</u>
Take notes and complete 5, 6, (worksheet)
and 19, 21on p. 94

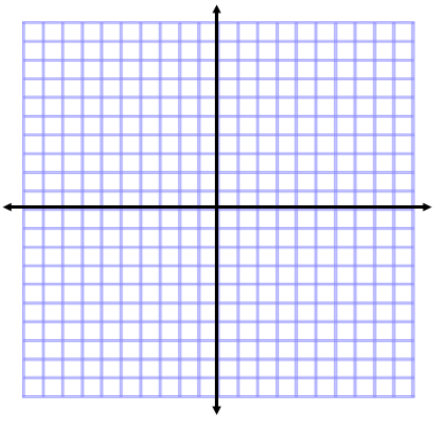
Key Concept — **Reflection Matrices** — For Your FOLDABLE

To reflect in the given line, multiply the vertex matrix by the given matrix.

Example 3 Reflection

Determine the coordinates of the vertices of the image of pentagon *PENTA* with *P*(–3, 1), *E*(0, –1), *N*(–1, –3), *T*(–3, –4), and *A*(–4, –1) after a reflection across the *y*-axis. Then graph the preimage and image.

Answer:



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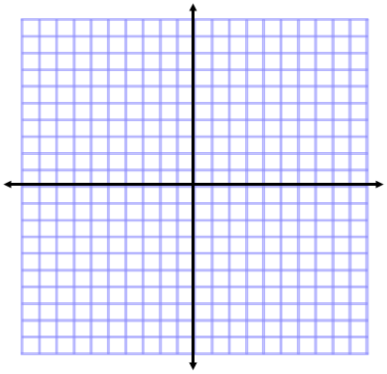

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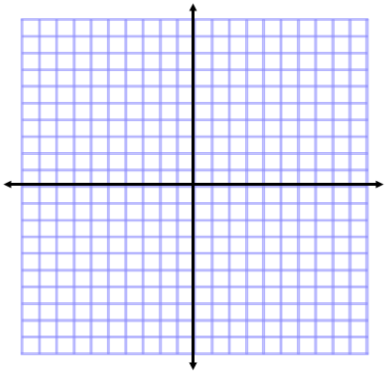

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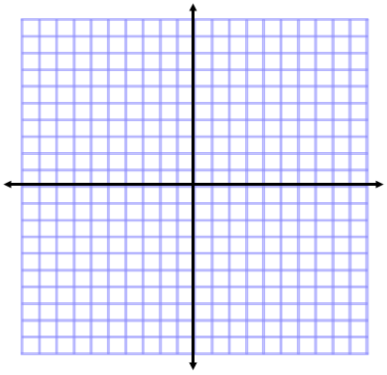
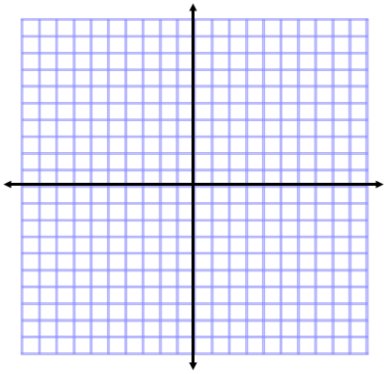


21.



Activity 4.

Take notes and complete 7, 8, (worksheet) and 23 on p. 94

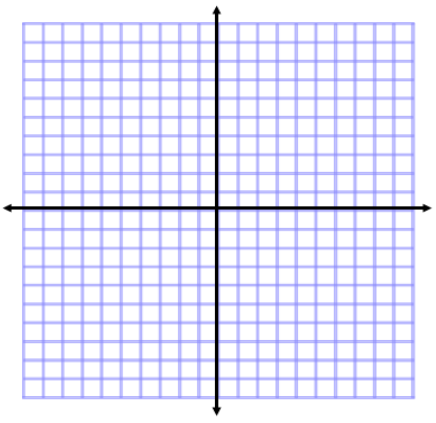
Key Concept — **Rotation Matrices** — For Your FOLDABLE

To rotate counterclockwise about the origin, multiply the vertex matrix by the given matrix.

Example 4 Rotation

Find the coordinates of the vertices of the image of ΔDEF with $D(4, 3)$, $E(1, 1)$, and $F(2, 5)$ after it is rotated 90° counterclockwise about the origin.

Answer:



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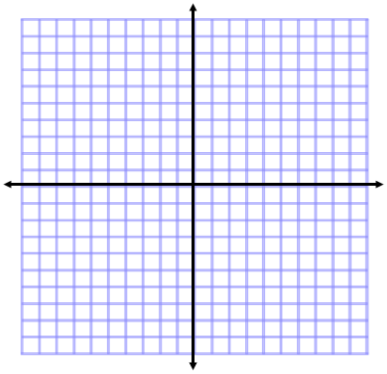

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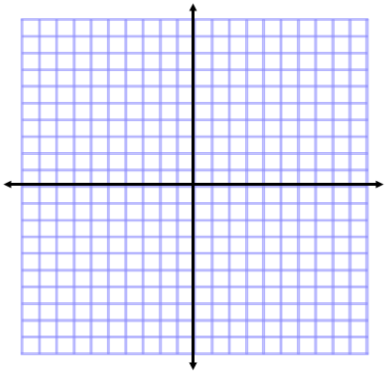

23.