In the diagram below, $\overline{AC} = \overline{DF}$ and points $A$, $C$, $D$, and $F$ are collinear on line $l$.

Let $\triangle D'E'F'$ be the image of $\triangle DEF$ after a translation along $l$, such that point $D$ is mapped onto point $A$. Determine and state the location of $F'$. Explain your answer.

Let $\triangle D''E''F''$ be the image of $\triangle D'E'F'$ after a reflection across line $l$. Suppose that $E''$ is located at $B$. Is $\triangle DEF$ congruent to $\triangle ABC$? Explain your answer.

For each slope below, write a perpendicular slope.

\[
\begin{array}{cccc}
\frac{2}{3} & -\frac{5}{4} & \frac{1}{7} & -4 & 1
\end{array}
\]

How many Hershey’s are in the jar?

<table>
<thead>
<tr>
<th></th>
<th>Too Low</th>
<th>Official Guess</th>
<th>Too High</th>
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Reflections

Transformations Big Idea: Congruent parts of a polygon map to its congruent parts under a reflection.

Reflect ΔABC across the y-axis.

Reflect ΔDEF across the x-axis.

Describe the process of reflecting the triangles above. (mapping video → bit.ly/refmap)

The triangle, ΔXYZ, that is shown below has side lengths of x, y, and z inches and is not a right triangle. Let X’ be the image of X when the triangle is reflected across YZ. Which of the following is an expression for the perimeter, in inches, of quadrilateral X’YZX?

F. 2(y + z) + x
G. 2(x + y + z)
H. 2(x + y)
J. 2(x + z)
K. 2(y + z)

Remember perpendicular lines? Use those to reflect the following.

Coordinate Rules

\[ y = x \]
\[ (a, b) \rightarrow (b, a) \]

\[ y = -x \]
\[ (a, b) \rightarrow (-b, -a) \]
Reflect $\triangle ABC$ in the line $x = -1$. 

Reflect $\triangle EFG$ in the line $y = 4$. 

What is the equation of the line of reflection for each of these?