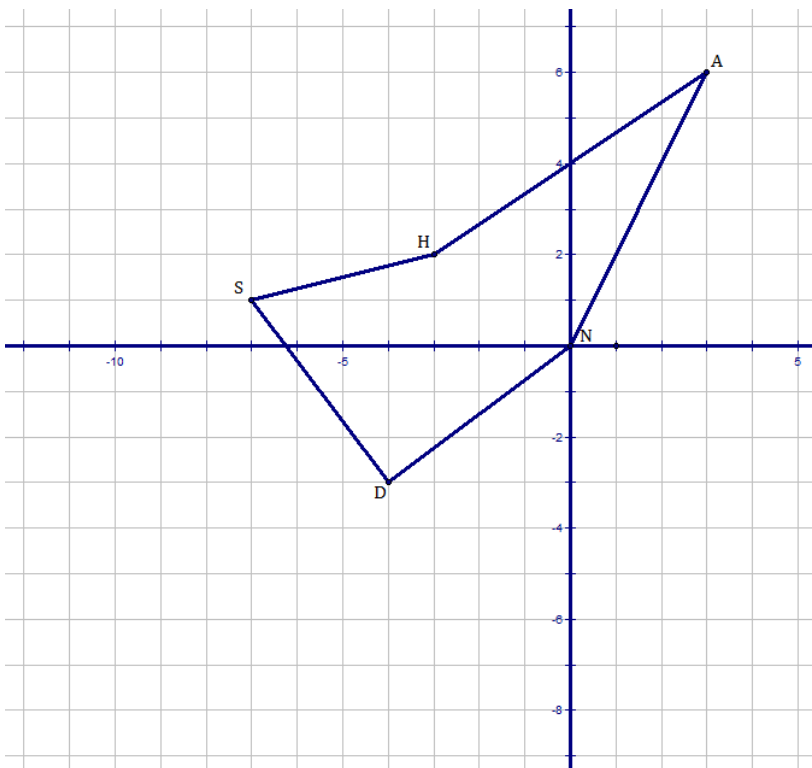


1. **Part A** Show the image of  $\triangle TOE$  after the translation  $(x, y) \rightarrow (x + 3, y - 2)$ .

**Part B** Show the image of  $\triangle T'O'E'$  after a reflection over the line  $x = -1$ .



2. Perform the transformation  $(x, y) \rightarrow (x - 3, y - 4)$ .

**Part A** Explain the notation.

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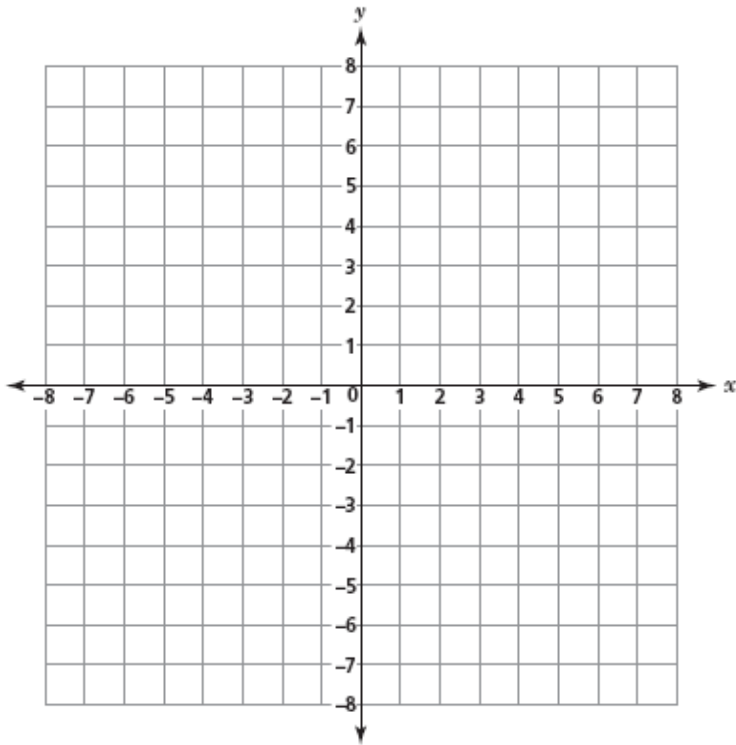
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**Part B**

State the coordinates of  $H'$ .

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**3. Part A**

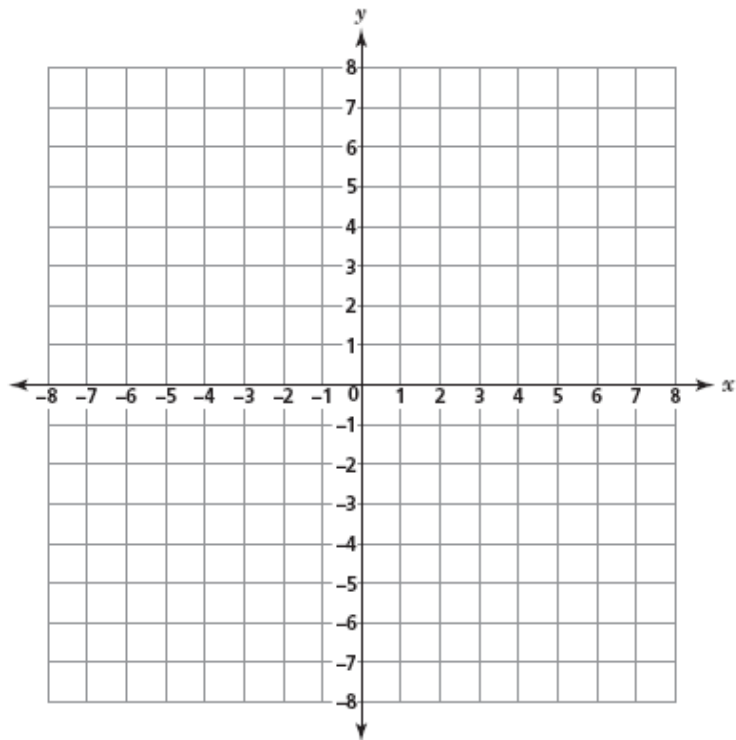
Draw triangle QRS with vertices  $Q(4, 6)$ ;  $R(0, 4)$ ; and  $S(6, -1)$ .

**Part B**

Show the image of  $\triangle QRS$  after a reflection over the  $x - axis$ .

**Part C**

Show the image of  $\triangle Q'R'S'$  after the translation  $(x, y) \rightarrow (x - 6, y)$ .



**4. Part A**

Graph a pentagon with the following coordinates:  
 $S(-5, 6)$ ,  $M(-3, 6)$ ,  $I(-2, 4)$ ,  $L(-3, 1)$   
 and  $E(-5, 1)$ .

**Part B** Reflect  $S'M'I'L'E$  over the line  $y = 1$ .