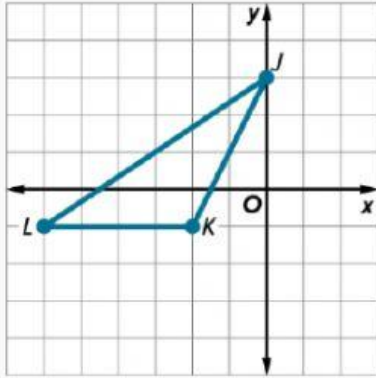




Reflections



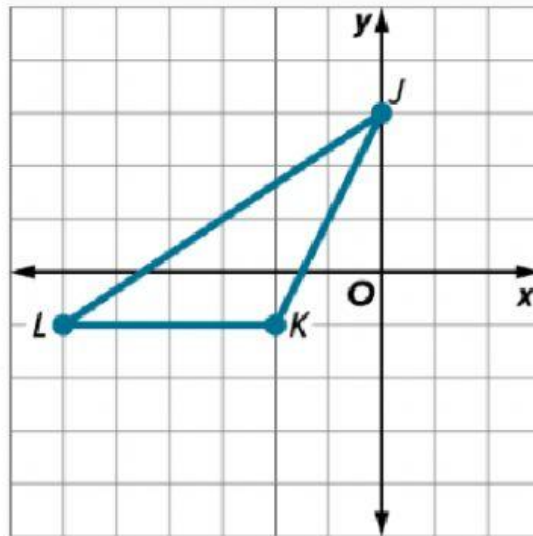
Triangle JKL has coordinates $J(0, 3)$, $K(-2, -1)$, and $L(-6, -1)$.

a. Determine the coordinates of the vertices of the image after a reflection in the line $x = -4$.

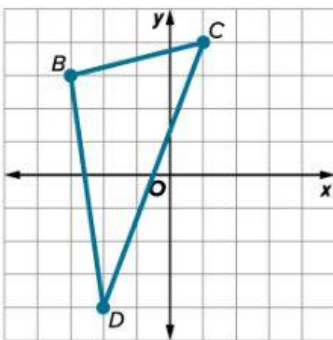
- ☐ A $J'(-8, 3)$, $K'(-6, -1)$, $L'(-2, -1)$
- ☐ B $J'(0, 3)$, $K'(2, -1)$, $L'(6, -1)$
- ☐ C $J'(0, -11)$, $K'(-2, -7)$, $L'(-6, -7)$
- ☐ D $J'(0, -3)$, $K'(-2, 1)$, $L'(-6, 1)$

Determine the coordinates of the vertices of the image after a reflection in the line $y = 2$.

- ☐ A $J'(4, 3)$, $K'(6, -1)$, $L'(10, -1)$
- ☐ B $J'(0, 1)$, $K'(-2, 4)$, $L'(-6, 4)$
- ☐ C $J'(0, 1)$, $K'(-2, 5)$, $L'(-6, 5)$
- ☐ D $J'(0, -3)$, $K'(-2, 1)$, $L'(-6, 1)$



Triangle BCD has coordinates $B(-3, 3)$, $C(1, 4)$, and $D(-2, -4)$.



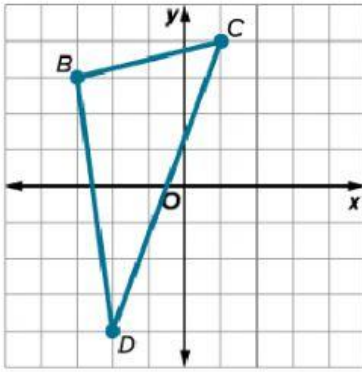
Select the coordinates of the vertices of the image after a reflection in the line $x = 3$.

- ☐ A) $B'(3, 3)$, $C'(-1, 4)$, $D'(2, -4)$
- ☐ B) $B'(-3, -3)$, $C'(1, -4)$, $D'(-2, 4)$
- ☐ C) $B'(9, 3)$, $C'(5, 4)$, $D'(8, -4)$
- ☐ D) $B'(-3, -3)$, $C'(1, 2)$, $D'(-2, 10)$

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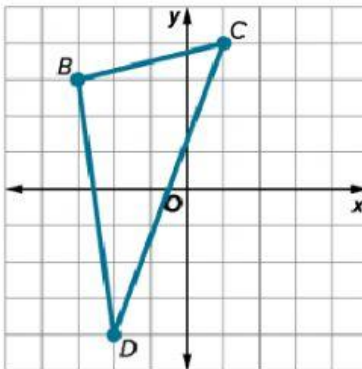
Triangle BCD has coordinates $B(-3, 3)$, $C(1, 4)$, and $D(-2, -4)$.



Select the coordinates of the vertices of the image after a reflection in the line $y = -4$.

- ☐ A) $B'(-3, 5)$, $C'(1, 4)$, $D'(-2, 12)$
- ☐ B) $B'(-3, -11)$, $C'(1, -12)$, $D'(-2, -4)$
- ☐ C) $B'(-3, -3)$, $C'(1, -4)$, $D'(-2, 4)$
- ☐ D) $B'(3, -3)$, $C'(4, 1)$, $D'(-4, -2)$

Triangle BCD has coordinates $B(-3, 3)$, $C(1, 4)$, and $D(-2, -4)$.



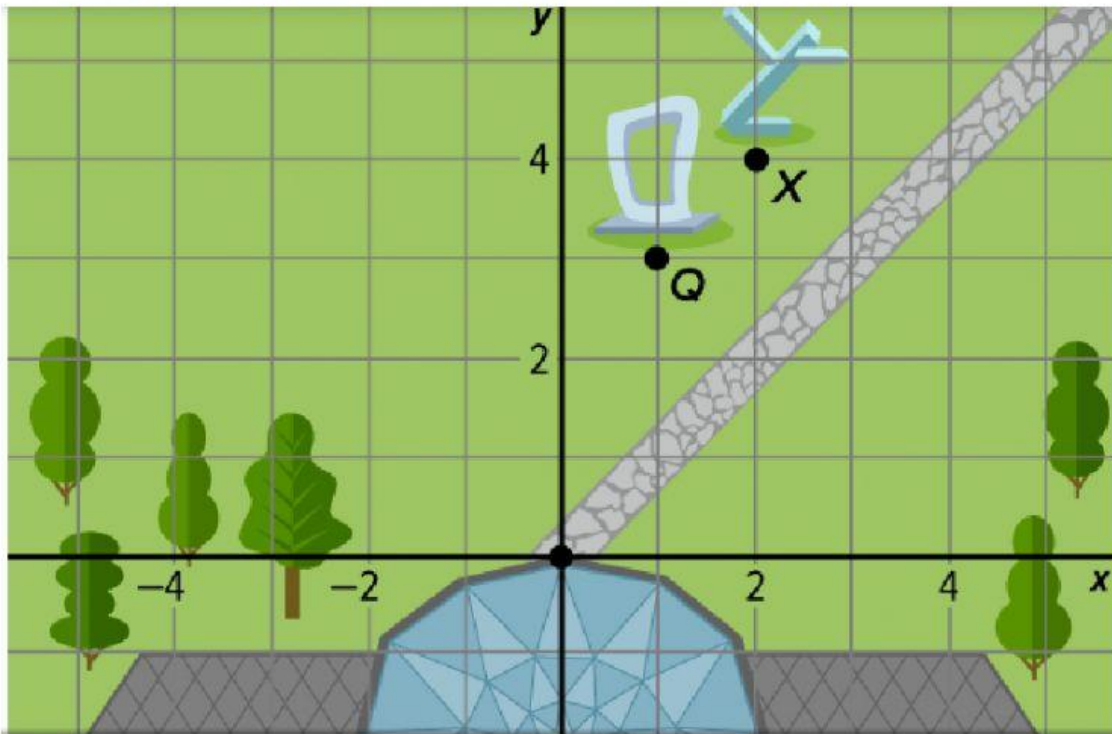
Select the coordinates of the vertices of the image after a reflection in the line $y = x$.

- ☐ A) $B'(3, -3)$, $C'(4, 1)$, $D'(-4, -2)$
- ☐ B) $B'(-3, 3)$, $C'(-4, -1)$, $D'(4, 2)$
- ☐ C) $B'(3, 3)$, $C'(4, -1)$, $D'(-4, 2)$
- ☐ D) $B'(-3, 3)$, $C'(-4, 1)$, $D'(4, -2)$

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LANDSCAPE Tomas is designing a sculpture garden for an art museum. There is a sidewalk connecting the center of the museum entrance to the edge of the lawn. Tomas has a set of 4 sculptures in a series that he wants to be equidistant from this sidewalk. He plotted positions for Q and X on the graph. If pieces Q and R are a pair and X and Y are a pair, where will pieces R and Y be placed in the garden?

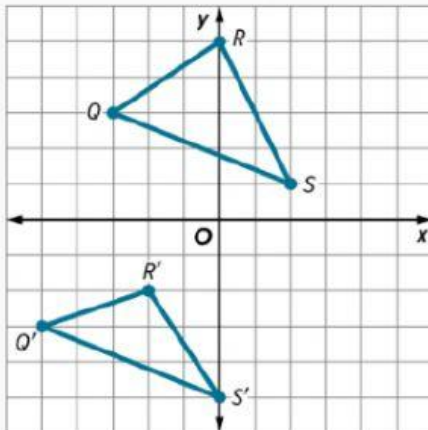


- ☐ A) $R(3, 1)$, $Y(4, 2)$
- ☐ B) $R(3, -1)$, $Y(4, -2)$
- ☐ C) $R(-3, 1)$, $Y(-4, 2)$
- ☐ D) $R(-3, -1)$, $Y(-4, -2)$

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Translations

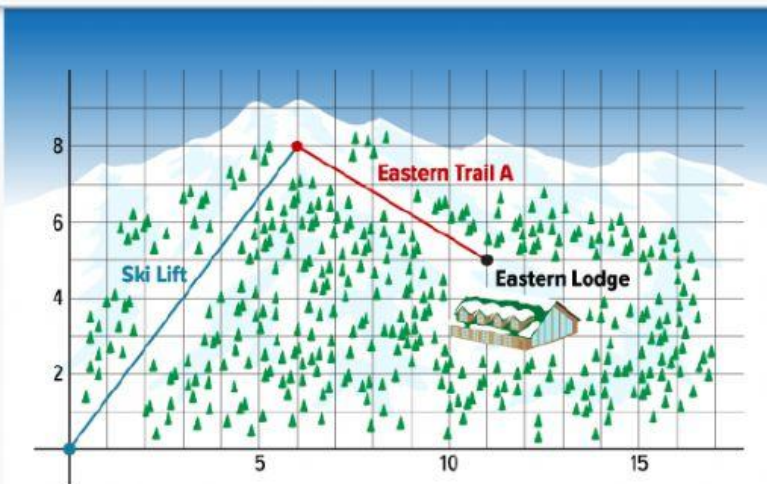


Determine whether a translation maps $\triangle QRS$ onto $\triangle Q'R'S'$. If so, find the translation vector. If not, explain why.

- ☐ A No; $\overline{RR'}$ is not the same length as $\overline{QQ'}$ or $\overline{SS'}$.
- ☐ B No; a reflection was applied.
- ☐ C yes; $\langle -2, -6 \rangle$.
- ☐ D yes; $\langle -2, -7 \rangle$.



SKIING Suzuki and Lucy are going cross country skiing. The ski lift will take them to the start of Eastern Trail A. They are planning to ski this trail and stop at the Eastern Lodge.



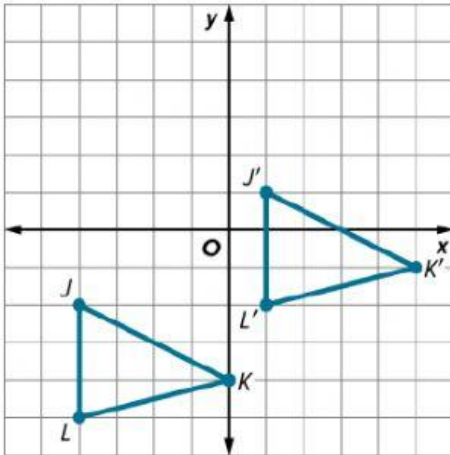
Their movement from the end of the ski lift to the lodge can be described as a translation along vector

- A. $\langle -5, -3 \rangle$
- B. $\langle -5, 3 \rangle$
- C. $\langle 5, -3 \rangle$
- D. $\langle -3, 5 \rangle$

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Determine whether a translation maps $\triangle JKL$ onto $\triangle J'K'L'$. If so, find the translation vector. If not, explain why.



- ☐ A) Yes; $\langle 5, 3 \rangle$
- ☐ B) Yes; $\langle 3, 5 \rangle$
- ☐ C) No; this is a reflection.
- ☐ D) No; the triangles are not congruent.

CAMPING Kumar and his friends are on a camping trip. Kumar looks at a map of the campground to find the shortest path from their campsite to the start of a trail. Which vector best describes the translation from the campsite to the start of the trail?



- ☐ A) $\langle 8, 2 \rangle$
- ☐ B) $\langle -4, 5 \rangle$
- ☐ C) $\langle 2, 6 \rangle$
- ☐ D) $\langle -5, 4 \rangle$

Translations

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