Reflections Worksheet

For #1-6, draw the triangle after each transformation and give the coordinates of \( A', B' \) and \( C' \).

1. Reflect the triangle over the \( y \)-axis.

2. Reflect the triangle over the \( x \)-axis.

3. Reflect the triangle over \( y = x \).

4. Reflect the triangle over \( y = -x \). \( (x, y) \rightarrow (-y, -x) \)

5. Reflect the triangle over the \( x \)-axis and then over \( y = x \).

6. Reflect the triangle over \( x = -2 \).
Complete.

7. After a reflection over the line \( y = x \), \((8, 11)\) is the image of point \( C \). What is the original location of point \( C \)? rule \((x, y) \rightarrow (y, x)\) so...

\[ C(11, 8) \text{ since } C'(8, 11). \]

8. After a reflection over the \( y \)-axis, \((0, 4)\) is the image of point \( L \). What is the original location of point \( L \)? rule \((x, y) \rightarrow (-x, y)\) so...

\[ L(0, 4) \]

9. The reflection of \( J(-1, 11)\) is \( J'(-1, -11)\). What is the reflection of \( D(5, -5)\) if the point is reflected across the same line? \((x, y) \rightarrow (x, -y)\) so...

\[ D'(5, 5) \]

What is the line of reflection?
line of reflection is over \( x \)-axis

10. The reflection of \( K(-2, 8)\) is \( K'(8, -2)\). What is the reflection of \( L(10, -3)\) if the point is reflected across the same line? \((x, y) \rightarrow (y, x)\) so...

\[ L'(-3, 10) \]

What is the line of reflection?
line of reflection is \( y = x \)

11. Given triangle \( JBN \) with coordinates \( J(4, 5)\), \( B(-1, -7)\), and \( N(-7, 8)\), find the image of point \( B \) after a reflection over the line \( y = x \).

\[ B'(-7, -1) \]

12. After a reflection over the \( x \)-axis, \((5, 10)\) is the image of point \( N \). What is the original location of point \( N \)? rule \((x, y) \rightarrow (x, -y)\) so...

\[ N(5, -10) \]

13. Given triangle \( ONA \) with coordinates \( O(-4, 1)\), \( N(11, -12)\) and \( A(-7, -9)\), find the image of point \( O \) after a reflection over the \( x \)-axis. rule \((x, y) \rightarrow (x, -y)\)

\[ O'(-4, -1) \]

14. Given triangle \( UCJ \) with coordinates \( U(-12, 7)\), \( C(4, 2)\), and \( J(-3, 9)\), find the image of point \( C \) after a reflection over the \( y \)-axis. rule \((x, y) \rightarrow (-x, y)\)

\[ C'(-4, 2) \]

15. The reflection of \( H(-10, -11)\) is \( H'(10, -11)\). What is the reflection of \( N(8, 10)\), if the point is reflected across the same line? rule \((x, y) \rightarrow (-x, y)\) so...

\[ N'(-8, 10) \]

What is the line of reflection?
line of reflection over \( y \)-axis