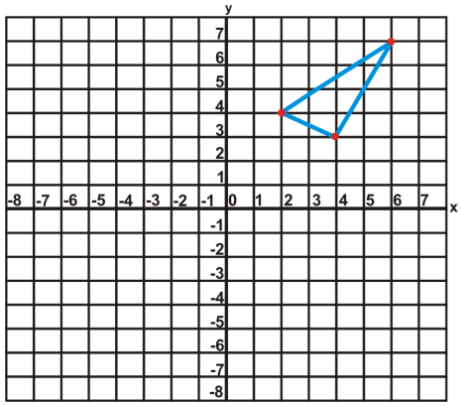
Name _____ Date _____

Triangle Transformations Lesson

Draw the new location of the triangle after the transformation.

Reflect the triangle over the x axis.



A transformation changes the position of a shape within a coordinate system, or simply moves the shape from its current location to another.

Translation is when a shape slides horizontally, vertically or in both directions.

A rotation is a turn around a point.

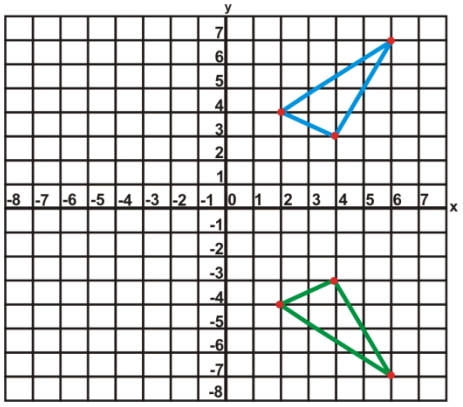
A reflection is a flip of a shape over a line. The reflected figure is the mirror image of the original.

To reflect the given triangle over the x axis, carefully look at the coordinates of one of its points:

The point (6,7) is one of its coordinates. Now reflect the triangle over x axis, find the co-ordinate (6,-7) and draw a triangle which is the mirror image of the given triangle.

Note: (Other two coordinates of triangle are the same distance from the x-axis, but now on the other side of that line).

Answer:

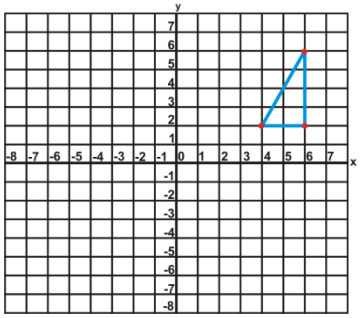


Name _____ Date _____

Triangle Transformations Lesson and Practice

Draw the new location of the triangle after the transformation.

Rotate the triangle counterclockwise 90° around (0,0).



A rotation is turn a shape around a point.

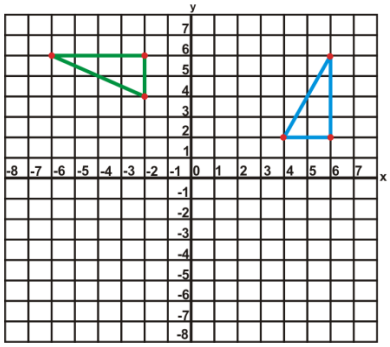
If the triangle rotates by 90°, this means that it will move 1 quadrant over in a clockwise/ counterclockwise direction from the quadrant in which it lies.

A 180° rotation moves 2 quadrants and a 270° moves 3 quadrants from the quadrant in which it lies.

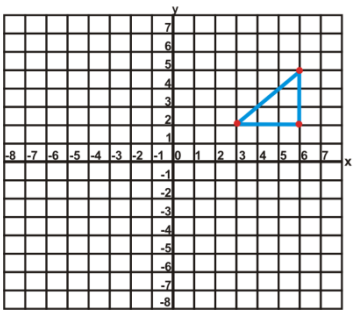
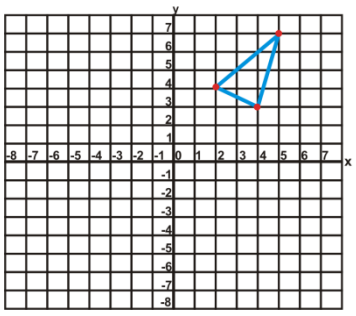
Counterclockwise	90° = (x, y) = (y, -x) 180° = (x, y) = (-x, -y) 270° = (x, y) = (-y, x)	Clockwise	90° = (x, y) = (-y, x) 180° = (x, y) = (-x, -y) 270° = (x, y) = (y, -x)

To rotate the given triangle counterclockwise 90° around (0,0), carefully look at the co-ordinates of the triangle on the grid. The coordinates of one of the points on the triangle are (6,2). Now rotate the triangle by 90°. It will lie in the II quadrant. The Coordinates will be changed according to the given table, becoming (-2, 6). Now draw the triangle in the second quadrant. Now draw a triangle in the second quadrant.

Answer:



Practice Problems

1	Rotate 90° around (0,0) clockwise		2	Rotate 180° around (0,0) counter clockwise	

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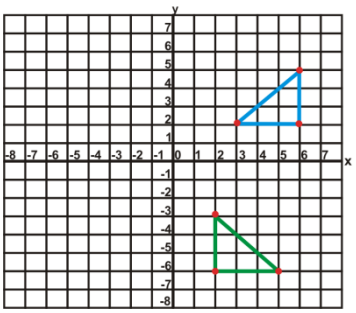
Answers

1	Rotate 90^{o} around (0,0) clockwise		2	Rotate 180^{o} around (0,0) counter clockwise