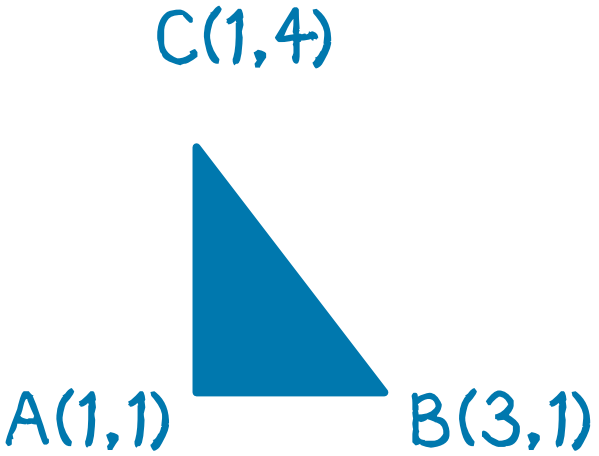
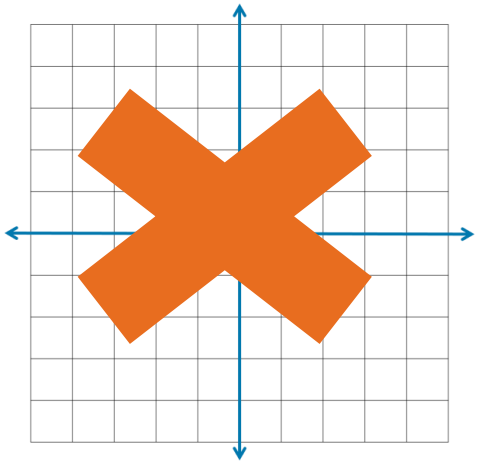
I wonder if I can rotate this triangle 90 degrees counter-clockwise WITHOUT a graph.





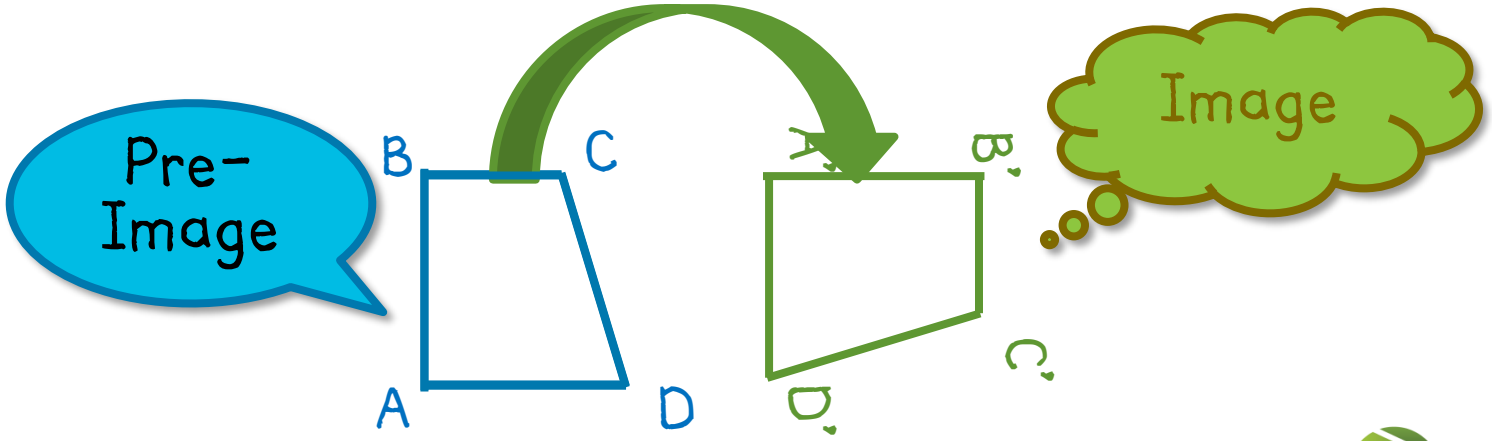
In this lesson you will learn how to graph an image after a rotation by using coordinates.

Let's Review

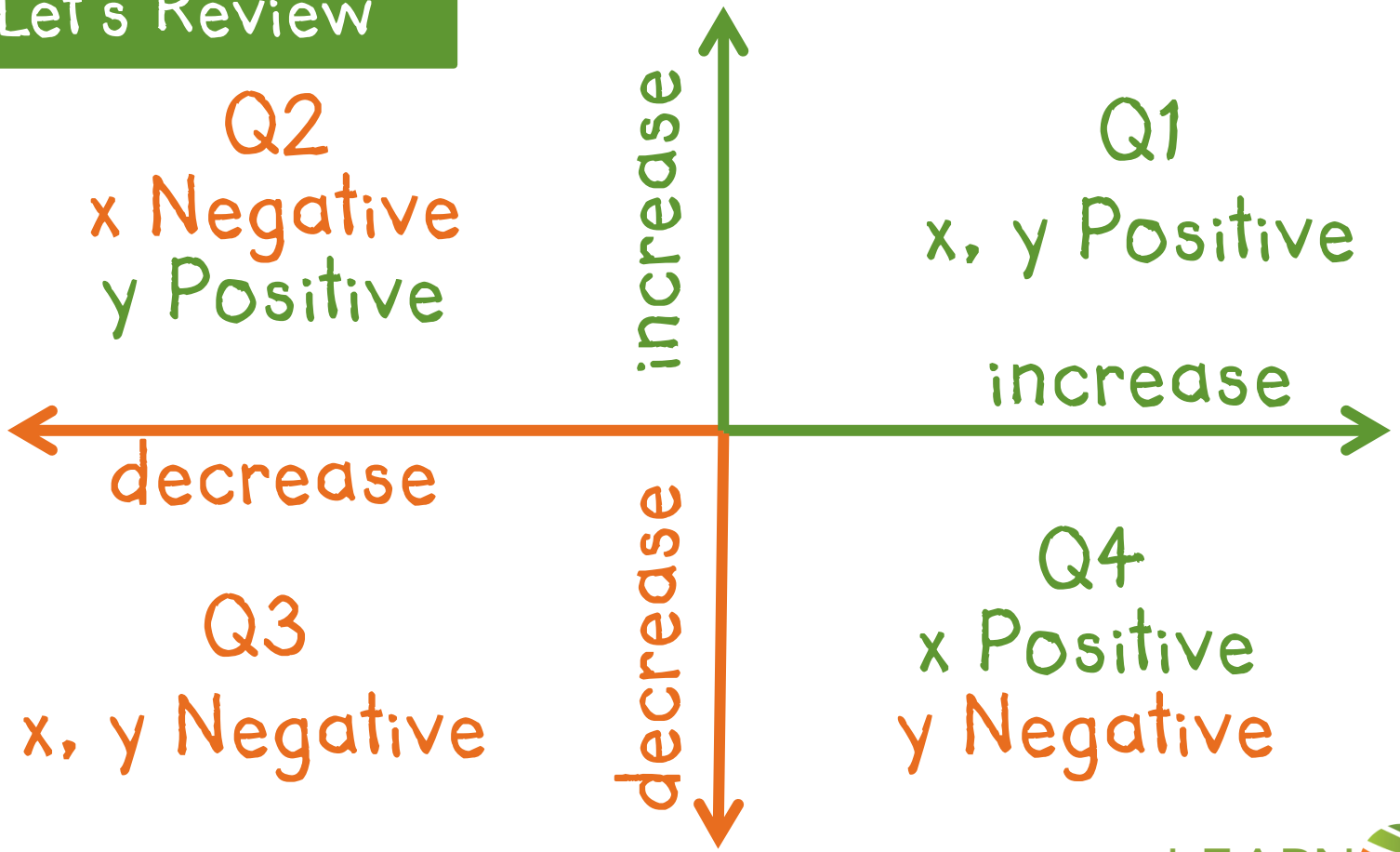
Rotations:

Size, shape, and orientation stay the same.

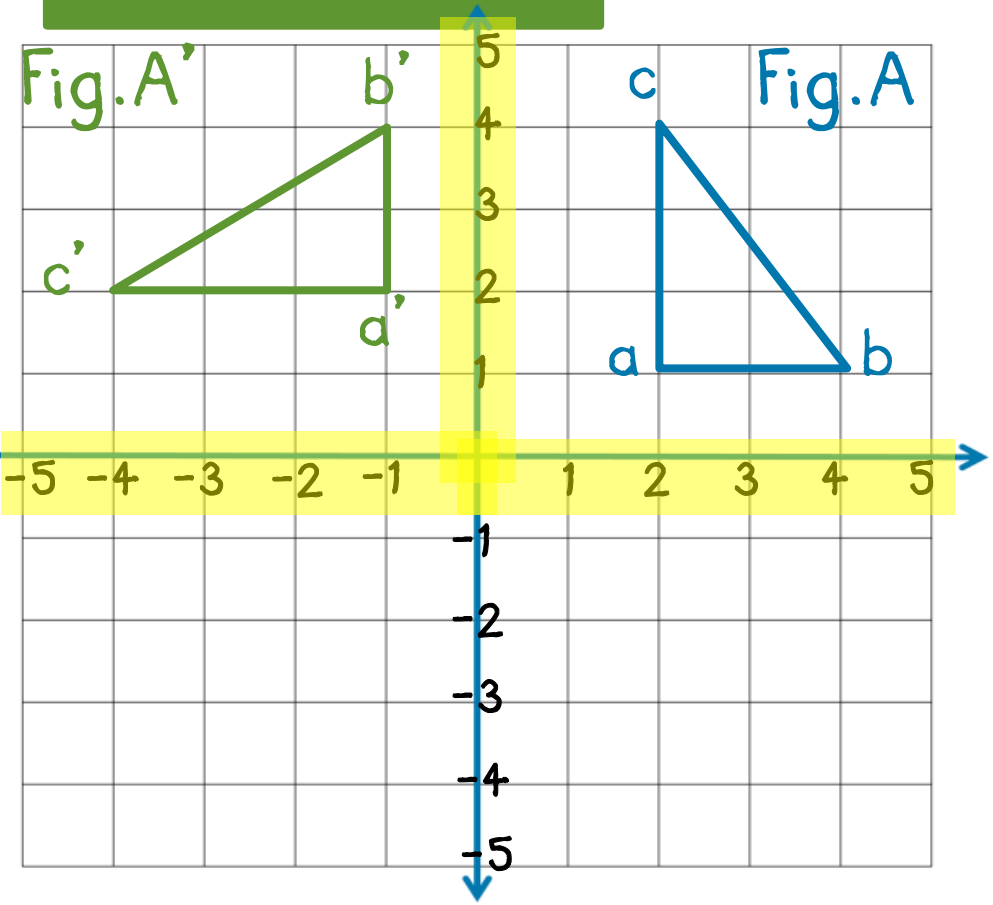
Position changes.



Let's Review



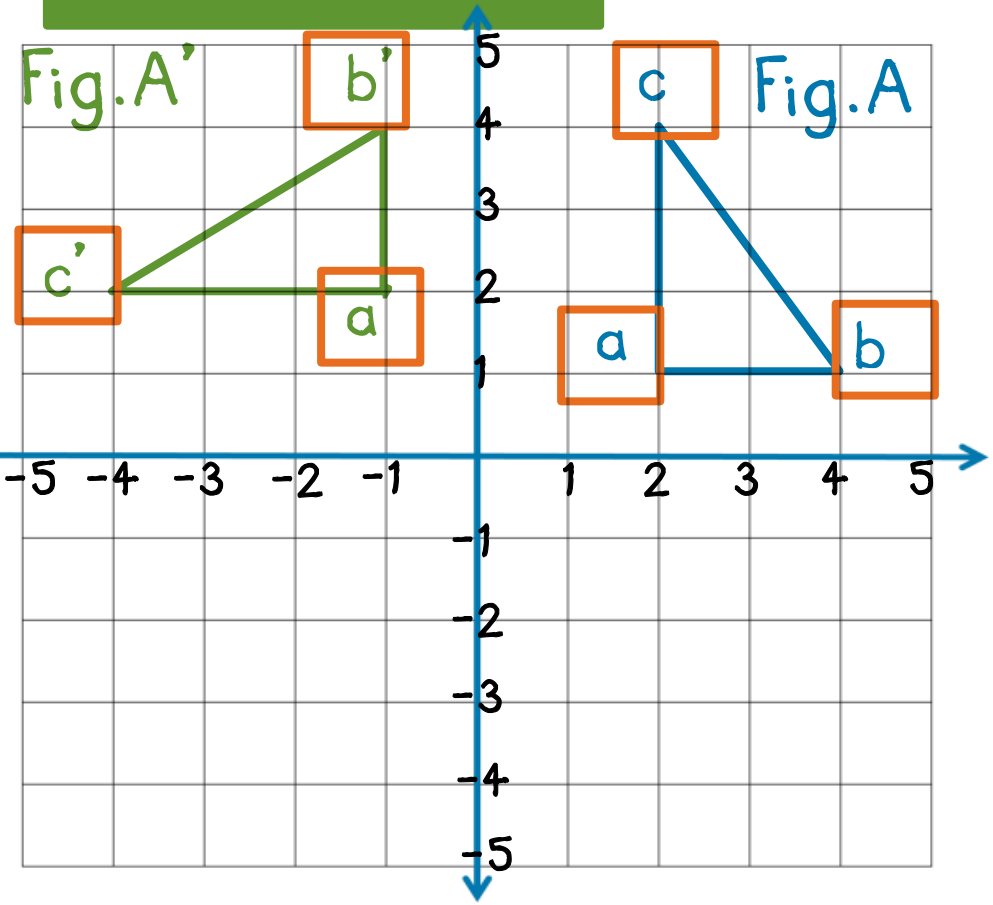
Core Lesson



90 Degree Counter-Clockwise Rotation from Q1 to Q2

What's happening to the coordinates?

Core Lesson



90 Degree Counter-Clockwise Rotation from Q1 to Q2

a (2, 1) a' (-1, 2)

b (4, 1) b' (-1, 4)

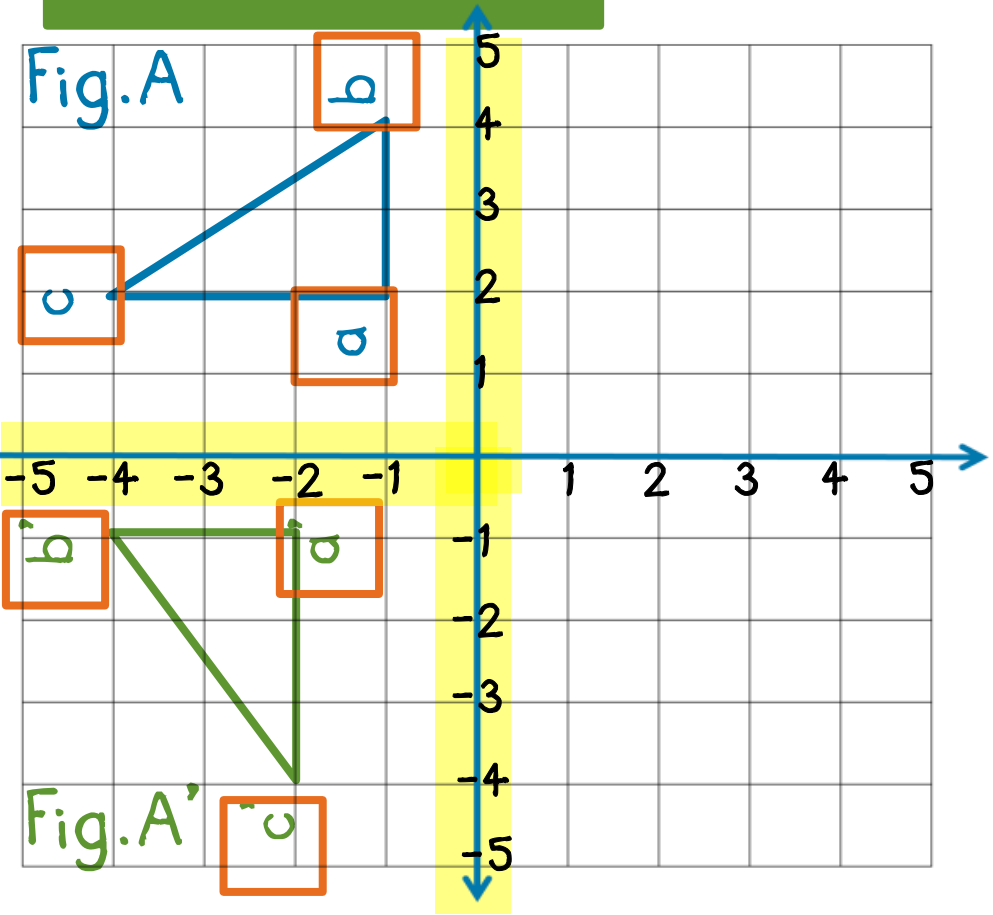
c (2, 4) c' (-4, 2)

$R_{90}(x, y) = (-y, x)$?

LEARNZILLION

Core Lesson

90 Degree Counter-Clockwise Rotation from Q2 to Q3



a (−1, 2) a' (−2, −1)

b (−1, 4) b' (−4, −1)

c (−4, 2) c' (−2, −4)

$R_{90}(x, y) = (-y, x)$ ✓

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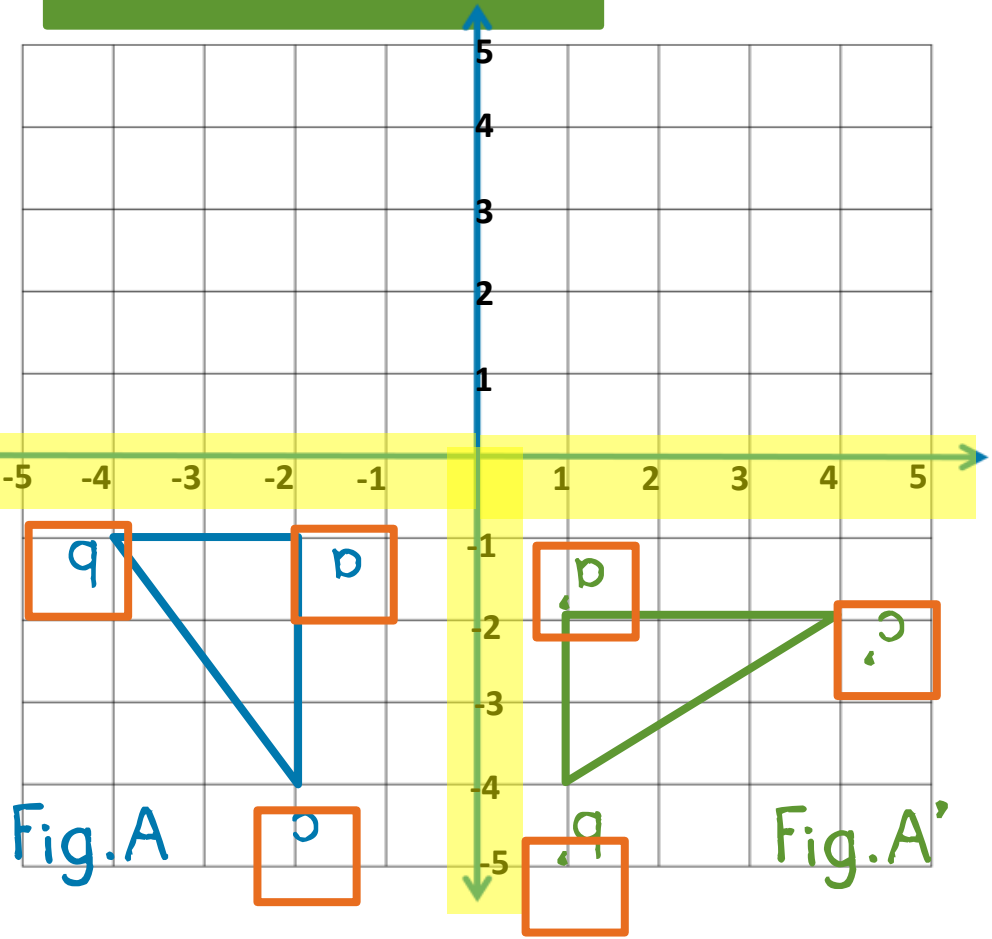
Core Lesson

90 Degree Counter-Clockwise Rotation from Q3 to Q4



a (−2, −1) a' (1, −2)

b (−4, −1) b' (1, −4)

c (−2, −4) c' (4, −2)

$R_{90}(x, y) = (-y, x)$ ✓

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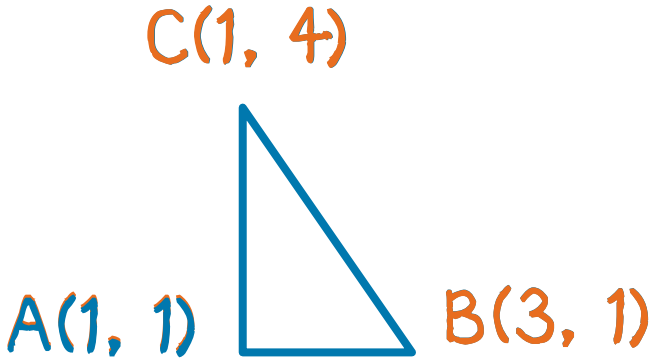
Core Lesson

90 Degree Counter-Clockwise Rotation

Fig.A



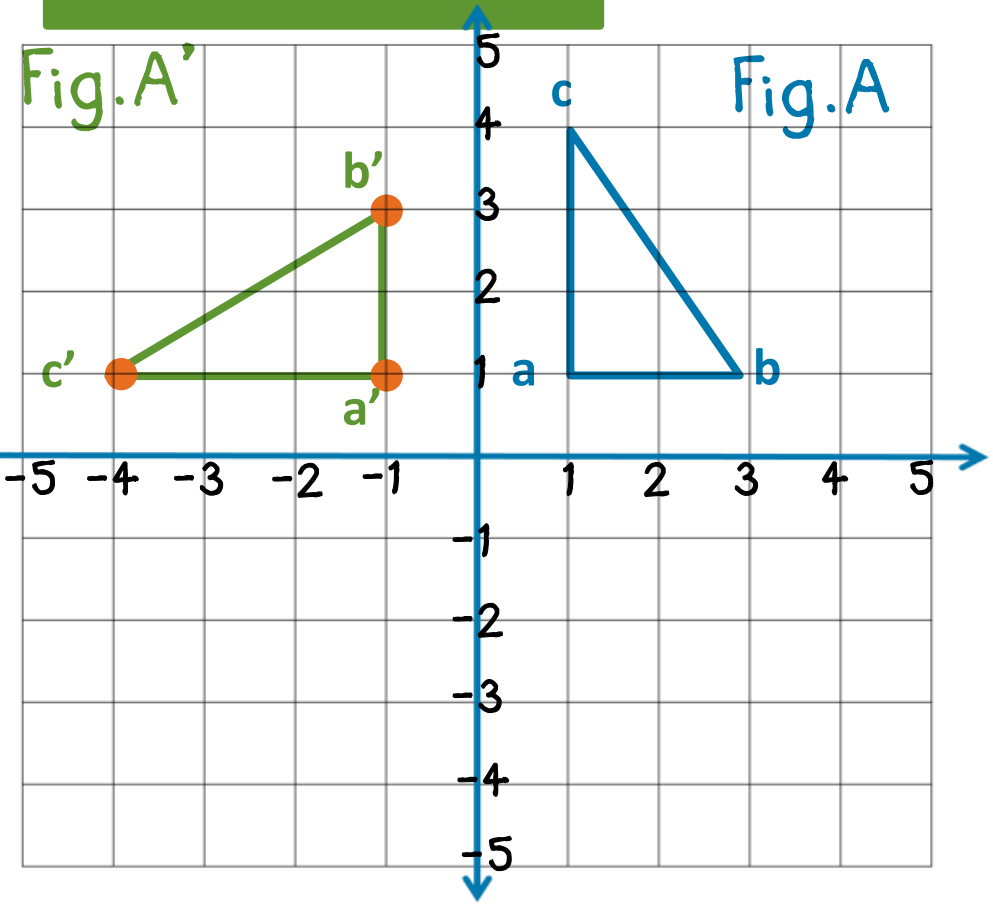
A(1, 1) A'(-?1, ?1)

B(3, 1) B'(-?1, ? 3,)

C(1, 4) C'(-?4, ? 1)

LEARNZILLION

Core Lesson



Check our work

A(1, 1)

A'(−1, 1)

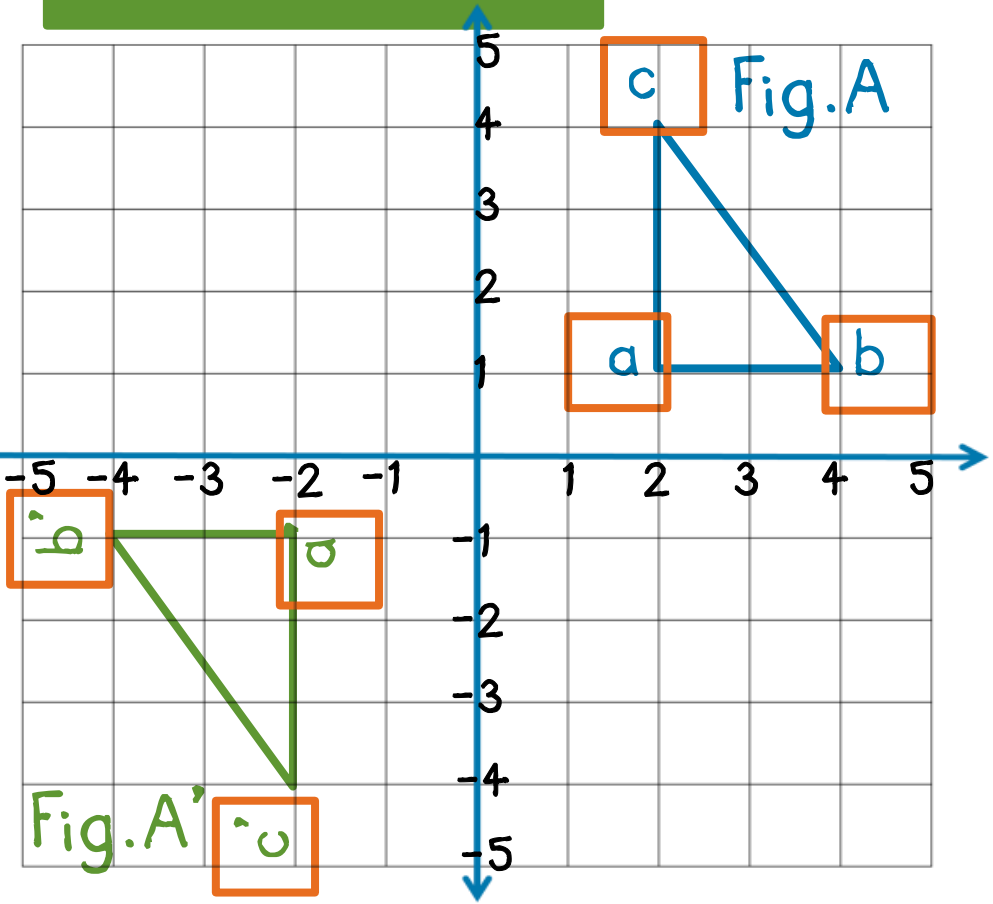
B(3, 1)

B'(−1, 3)

C(1, 4)

C'(−4, 1)

Core Lesson



180 Degree Counter-Clockwise Rotation :

a (2, 1)	a' (−2, −1)
b (4, 1)	b' (−4, −1)
c (2, 4)	c' (−2, −4)

$R_{180}\,(x,y) = (-x, -y)$?

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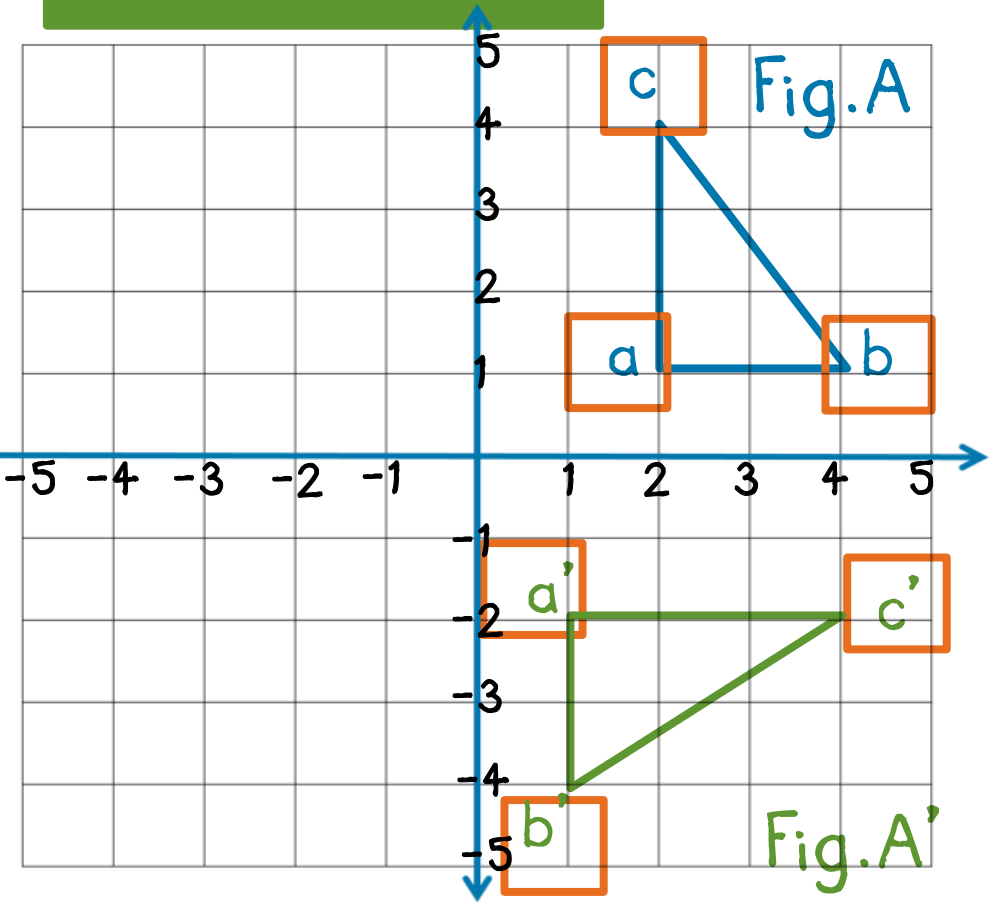
Core Lesson



270 Degree Counter-Clockwise Rotation :

a (2, 1) a' (1, −2)

b (4, 1) b' (1, −4)

c (2, 4) c' (4, −2)

$R_{270}\ (x, y) = (y, -x)$?

LEARNZILLION

In this lesson you have learned how to graph an image after a rotation by using coordinates.