

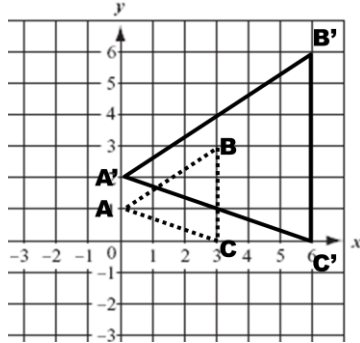
# Dilations on the Coordinate Plane Notes

Name \_\_\_\_\_

**Dilation:** a transformation that moves each point along a ray which starts from a fixed center, and multiplies distances from this center as a common factor. Since the new image is *similar* to the original (not congruent), it is called a **non-rigid transformation**.

**Examples:**

## 1) Identify the scale factor.



What are the original ordered pairs?

A(\_\_\_\_, \_\_\_\_), B(\_\_\_\_, \_\_\_\_), C(\_\_\_\_, \_\_\_\_)

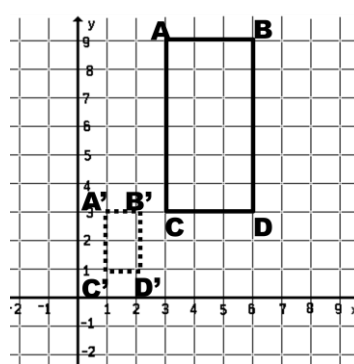
What are the new ordered pairs?

A'(\_\_\_\_, \_\_\_\_), B'(\_\_\_\_, \_\_\_\_), C'(\_\_\_\_, \_\_\_\_)

What is the length of BC?

What is the length of B'C'?

## 2) Identify the scale factor.



What are the original ordered pairs?

A(\_\_\_\_, \_\_\_\_), B(\_\_\_\_, \_\_\_\_), C(\_\_\_\_, \_\_\_\_), D(\_\_\_\_, \_\_\_\_)

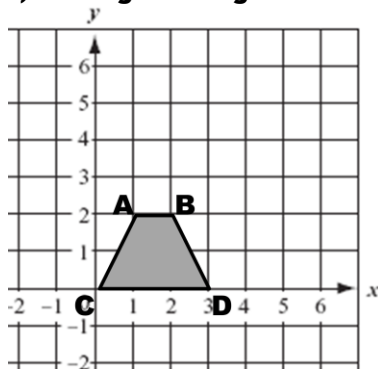
What are the new ordered pairs?

A'(\_\_\_\_, \_\_\_\_), B'(\_\_\_\_, \_\_\_\_), C'(\_\_\_\_, \_\_\_\_), D'(\_\_\_\_, \_\_\_\_)

What is the length of CD?

What is the length of C'D'?

## 3) Enlarge the figure with a scale factor of 2.



What are the original ordered pairs?

A(\_\_\_\_, \_\_\_\_), B(\_\_\_\_, \_\_\_\_), C(\_\_\_\_, \_\_\_\_), D(\_\_\_\_, \_\_\_\_)

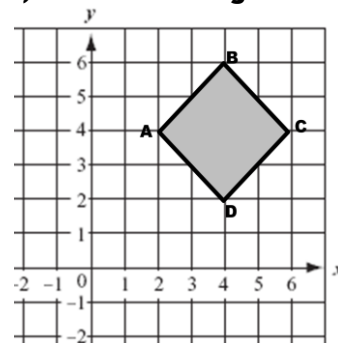
What are the new ordered pairs?

A'(\_\_\_\_, \_\_\_\_), B'(\_\_\_\_, \_\_\_\_), C'(\_\_\_\_, \_\_\_\_), D'(\_\_\_\_, \_\_\_\_)

What is the length of CD?

What is the length of C'D'?

## 4) Reduce the figure with a scale factor of $\frac{1}{2}$ .



What are the original ordered pairs?

A(\_\_\_\_, \_\_\_\_), B(\_\_\_\_, \_\_\_\_), C(\_\_\_\_, \_\_\_\_), D(\_\_\_\_, \_\_\_\_)

What are the new ordered pairs?

A'(\_\_\_\_, \_\_\_\_), B'(\_\_\_\_, \_\_\_\_), C'(\_\_\_\_, \_\_\_\_), D'(\_\_\_\_, \_\_\_\_)

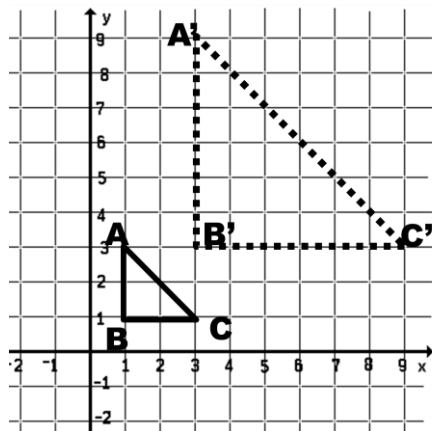
What is the length of BD?

What is the length of B'D'?



**Pause the video and try the ones on the back on your own!  
Then press play and check your answers with a color pen.**

**1) Identify the scale factor.**



What are the original ordered pairs?

A(\_\_\_\_, \_\_\_\_), B(\_\_\_\_, \_\_\_\_), C(\_\_\_\_, \_\_\_\_)

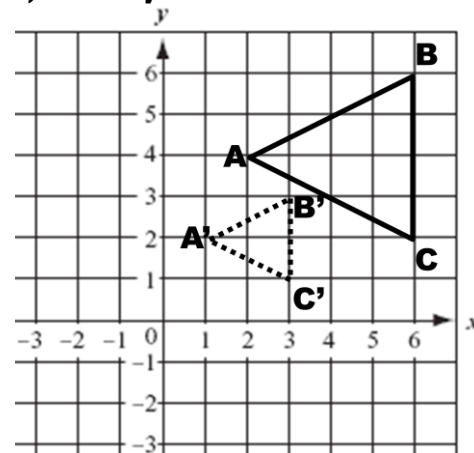
What are the new ordered pairs?

A'(\_\_\_\_, \_\_\_\_), B'(\_\_\_\_, \_\_\_\_), C'(\_\_\_\_, \_\_\_\_)

What is the length of BC?

What is the length of B'C'?

**2) Identify the scale factor.**



What are the original ordered pairs?

A(\_\_\_\_, \_\_\_\_), B(\_\_\_\_, \_\_\_\_), C(\_\_\_\_, \_\_\_\_)

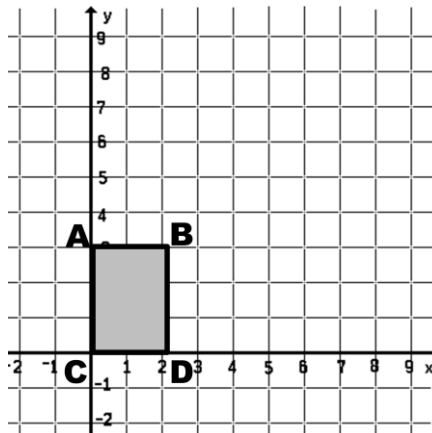
What are the new ordered pairs?

A'(\_\_\_\_, \_\_\_\_), B'(\_\_\_\_, \_\_\_\_), C'(\_\_\_\_, \_\_\_\_)

What is the length of BC?

What is the length of B'C'?

**3) Enlarge the figure with a scale factor of 3.**



What are the original ordered pairs?

A(\_\_\_\_, \_\_\_\_), B(\_\_\_\_, \_\_\_\_), C(\_\_\_\_, \_\_\_\_), D(\_\_\_\_, \_\_\_\_)

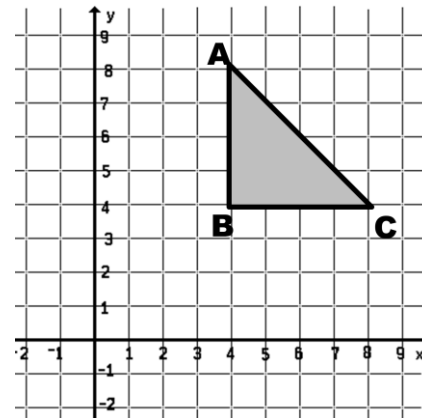
What are the new ordered pairs?

A'(\_\_\_\_, \_\_\_\_), B'(\_\_\_\_, \_\_\_\_),  
C'(\_\_\_\_, \_\_\_\_), D'(\_\_\_\_, \_\_\_\_)

What is the length of CD?

What is the length of C'D'?

**4) Reduce the figure with a scale factor of  $\frac{1}{4}$ .**



What are the original ordered pairs?

A(\_\_\_\_, \_\_\_\_), B(\_\_\_\_, \_\_\_\_), C(\_\_\_\_, \_\_\_\_)

What are the new ordered pairs?

A'(\_\_\_\_, \_\_\_\_), B'(\_\_\_\_, \_\_\_\_), C'(\_\_\_\_, \_\_\_\_)

What is the length of BC?

What is the length of B'C'?