**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:**

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| **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 ½.**  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.**

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| **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 ¼.**  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’? |