**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’? |

![C:\Documents and Settings\jainslie\Local Settings\Temporary Internet Files\Content.IE5\6W2FJPU3\MC900432687[1].png]()**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’? |