Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #:\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_

**2.7A NOTES – Dilations**

*Objective: Dilate figures in the coordinate plane; write notation rule for dilation. CC.SS.8.G.3 and G.4*

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|  | * To dilate an object means to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the size of an object or to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the size of an object.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will determine how much larger or smaller the object will become.
* A scale factor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 means the object will increase in size.
* A scale factor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 means the object will decrease in size.
* A dilated image will always be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to its original.
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| **Transformations Notation*** A transformation transforms, or maps, the original point to another point. Transformation uses a combination of operation ($+, -,  ÷, $x)
* notation: ↦ “maps to” (it is a rule that you have to apply)

EXAMPLE: (x, y) ↦ (x+3, y) --> (5, 12) ↦ (5+3, 12) --> **(5, 12) ↦ (8, 12)** |

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| 1. |  | Enlargement or reduction?Scale Factor: Notation Rule: (x, y) 🡪 |
| 2. |  | Enlargement or reduction?Scale Factor: Notation Rule: (x, y) 🡪 |
| 3. |  | Enlargement or reduction?Scale Factor: Notation Rule: (x, y) 🡪 |
| 4.  |  | Enlargement or reduction?Scale Factor: Notation Rule: (x, y) 🡪 |

 **BACK 🡪**

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| **Extra Example 2 (textbook)**The vertices of a triangle are D(1,4), E(1,1) and F(3,1). Draw the triangle and its image after a dilation with a scale factor of 2. Type of dilation: Notation rule: (x, y) 🡪 | **Extra Example 3 (textbook)**The vertices of a rectangle are J(-4,2), K(4,2), L(4,-2), and M(-4, -2). Draw the rectangle and its image after a dilation with a scale factor of 0.5. Type of dilation: Rotation rule: (x, y) 🡪 |

Watch the video if you need help: <https://www.youtube.com/watch?v=DhZ_Z69zaeE>

The scale factor “k” is the ratio of the length of any side in the image to the length of its corresponding side in the pre-image. It describes how much the figure is enlarged or reduced. $k=\frac{Image}{Pre-image}$

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| 5.Describe the dilation (enlarge or reduce):Scale factor:Notation Rule:  | 6.Describe the dilation (enlarge or reduce):Scale factor:Notation Rule:  |

[https://www.youtube.com/watch?v=gAmo3FcaovM](https://exchange.sandi.net/owa/redir.aspx?C=dyfTY4cv7ZenB5StwcKzI7xFlbKp_2AsGcnWEgjriQ4yz7FNT0PVCA..&URL=https%3a%2f%2fwww.youtube.com%2fwatch%3fv%3dgAmo3FcaovM) (D.M. Clip)

Watch the video for notes: <https://www.youtube.com/watch?v=mWrvZdxQ0_A>

